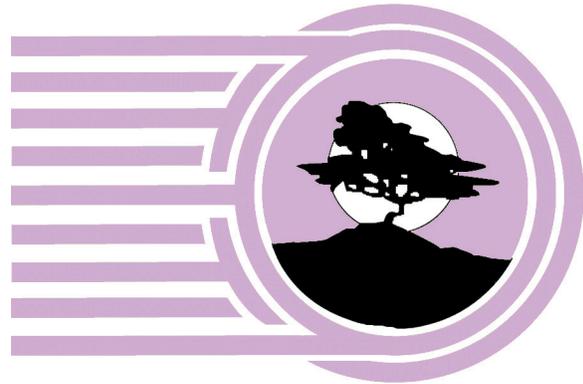


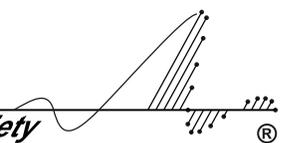
**THIRTY-EIGHTH
ASILOMAR CONFERENCE ON
SIGNALS, SYSTEMS AND
COMPUTERS**

**SS&C Conf. Corp.
P.O. Box 8236
Monterey, CA 93943**



November 7-10, 2004
Asilomar Hotel and
Conference Grounds

In Cooperation with

IEEE
Signal Processing Society  ®

**THIRTY-EIGHTH
ASILOMAR CONFERENCE ON
SIGNALS, SYSTEMS & COMPUTERS**

Organized in cooperation with

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Welcome from the General Chairman

Prof. Keith A. Teague, Oklahoma State University

It is my distinct pleasure to welcome you to the Thirty-Eighth Asilomar Conference on Signals, Systems and Computers. For many of us who return year after year, this conference has a very special attraction. The technical program is consistently outstanding, providing an opportunity to interact with some of the top researchers in our field, yet the format is relaxed and casual encouraging a workshop-like atmosphere that is friendly and inviting for all. The conference grounds themselves are beautiful, and the Pacific coast is striking. If you are attending for the first time, I hope you will have an enjoyable experience that will bring you back again. If you are returning, I hope you'll have an opportunity to renew many friendships from past years.

This year for the opening Sydney Parker Memorial Lecture we are very fortunate to have Professor Edward J. Delp, The Silicon Valley Professor of Electrical and Computer Engineering and Professor of Biomedical Engineering at Purdue University in West Lafayette, Indiana. Ed's keynote address, Signal and Image Processing: What Went Wrong? will explore the impact that signal and image processing has had on society and whether we've really delivered on our promises. Ed's talk promises to be informative and provocative.

The finalists in this year's student paper contest, under the direction of Dr. Linda DeBrunner, will present their posters on Sunday evening during the welcome reception and social gathering. The top 10 papers, selected from 69 total student entries, will be presented and judged. A total of 629 papers were submitted this year, including 125 invited papers.

The success of this conference depends on the dedicated service of many people. Special thanks are extended to the Technical Program Chairman, Prof. Scott Acton, and his outstanding Technical Program Committee who have developed a marvelous technical program this year. Although the success of a technical conference depends on many people working together, the primary responsibility falls on the Technical Program Chairman. Scott Acton has done a remarkable job this year. Please be sure to thank him and the entire Technical Program Committee when you see them. Thanks are also extended to the conference steering and administrative committees, and the faculty and staff of the Naval Postgraduate School who work tirelessly every year to make this conference possible.

On behalf of the entire Conference Committee, I hope you enjoy the Thirty-Eighth Asilomar Conference on Signals, Systems and Computers.

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University of Virginia

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2. Adaptive Systems and Processing

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4. Biomedical Signal and Image Processing

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5. Signal Processing Algorithms and Applications

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6. Architecture and Implementation

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7. Speech, Image, and Video Processing

Prof. Jim Schroeder
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2004 Asilomar Conference Session Schedule

Sunday Afternoon, November 7

2:00 - 7:00 PM Registration – Main Lodge
7:00 - 9:00 PM Welcoming Reception and Student Paper Contest
Poster Session at Asilomar – Merrill Hall

Monday Morning, November 8

7:30 - 9:00 AM Breakfast – Crocker Dining Hall
8:00 AM - 6:00 PM Registration
8:15 - 9:45 AM MA1a – Conference Opening and Plenary Session
9:45 - 10:15 AM Coffee Social

10:15 - 12:00 PM MORNING SESSIONS

MA1b	Radar and Remote Sensing	Randy Moses & Bin Yu
MA2b	Emerging Technologies	Graham Jullien
MA3b	Bioinformatics / Genomic Signal Processing	Gaurau Shaarma
MA4b	Power-Aware DSP Applications	Jeff Coleman
MA5b	Optical Communications and Networks	Leslie Rusch
MA6b	Application of Adaptive Filtering in Digital Communications	Rahul Singh
MA7b	Mathematical Models for Image Processing	Jonathan Manton

12:00 - 1:00 PM Lunch – Crocker Dining Hall

Monday Afternoon, November 8

1:30 - 5:10 PM AFTERNOON SESSIONS

MP1	Advanced Signal Processing in Biomedical Imaging	Mike Insana
MP2	Modulation and Detection	Tommy Guess
MP3	Adaptive Signal Processing	Louis Beex
MP4a	Radar Array Processing	Joe Guerci
MP4b	Space-time Coded/MIMO Radar	Frank Robey
MP5	OFDM	Ufuk Tureli
MP6	Image and Video Security, Retrieval, and Watermarking	Tom Lookabaugh
MP7	Speech and Audio Coding	Jerry Gibson
MP8a1	Digital System Implementation (Poster)	Neil Burgess
MP8a2	Image Processing for Biometrics (Poster)	Robert Ives
MP8b	Communications in Non-ideal Channels (Poster)	James Zeidner

Monday Evening, November 8

6:30 - 9:30 PM Conference Cocktail Social – Merrill Hall

2004 Asilomar Conference Session Schedule

(continued)

Tuesday Morning, November 9

7:30 - 9:00 AM Breakfast – Crocker Dining Hall
8:00 AM - 5:00 PM Registration

8:30 AM - 12:10 PM MORNING SESSIONS

TA1	Multi-scale Modeling of Biological Systems	Shayn Peirce
TA2a	Wireless Implementations	Joe Cavalloro
TA2b	High Performance Processing	Carlo Luschi
TA3a	Signal Processing for Agile Sensors	Darryl Morrell
TA3b	Applications of Multirate Systems and Filter Banks in Modern Communications	P. Vaidyanathan
TA4	MIMO/Space-time Coding	Robert Health
TA5	CDMA	Ubli Mitra
TA6	Adaptive Filter Theory	Scott Douglas
TA7	Mathematical Models for Signal Processing	Lang White
TA8a	Communications I (Poster)	Maite Brandt-Pearce
TA8b	Communications II (Poster)	Hui Liu

12:00 - 1:00 PM Lunch – Crocker Dining Hall

Tuesday Afternoon, November 9

1:30 - 5:10 PM AFTERNOON SESSIONS

TP1	Sensor Array and Relay Networks	Yingbo Hua
TP2	Computer Arithmetic	Milos Ercegovic
TP3	Sensor Networks	Rich Baraniuk & Mark Coat
TP4	Sonar and Acoustical Array Processing	Jim Pitton
TP5	Networks	J. M. Chung
TP6	UWB Communications	Dennis Goeckel
TP7	Image and Video Enhancement and Filtering	Tamal Bose
TP8a1	Biomedical Signal Processing (Poster)	Dana Brooks
TP8a2	Biomedical Image Processing (Poster)	Yibin Zheng
TP8a3	Signal Processing in Genomics and Proteomics (Poster)	Yibin Zheng
TP8a4	Radar Interpretation and Analysis (Poster)	Seth Silverstein
TP8b1	Image and Video Coding (Poster)	Sheila Hemami
TP8b2	Array Processing for Wireless Communications (Poster)	Murat Torlak
TP8b3	Speech Recognition (Poster)	Tina Kholer

Tuesday Evening, November 9

8:00 - 10:00 PM Bonfire next to Crocker Hall

2004 Asilomar Conference Session Schedule

(continued)

Wednesday Morning, November 10

7:30 - 9:00 AM	Breakfast – Crocker Dining Hall	
8:00 AM - 12:00 PM	Registration – Papers must be turned in before the registration closes at 12:00 noon.	
8:30 AM - 12:10 PM	MORNING SESSIONS	
WA1	Advances in Biomedical Microscopy	Brian Helmke
WA2	VLSI	David Harris
WA3	Wireless	Narayan Mandayam
WA4	Array Processing Functions	Uf Tureli
WA5	FEC	Matt Valenti
WA6	Applications of Adaptive Filtering in Communications	Jamal Tuqan
WA7	Statistical Signal and Image Processing	Vaughan Clarkson
WA8a	DSP Applications (Poster)	Ralph Hippenstiel
WA8b1	Speech Processing (Poster)	Neeraj Magotra
WA8b2	Adaptive Array Processing, STAP (Poster)	Stephen Kogon
12:00 - 1:00 PM	Lunch – Meal tickets may be purchased at registration desk. This meal is not included in the registration.	

Student Paper Contest

Poster session Sunday evening in Merrill Hall, judging 6:00 - 7:00 PM, papers to remain posted during Welcome Reception.

Category A – Communications Systems and Networking
“Code Design for the Relay Channel and Factor Graph Coding”
Mohammad Ali Khojastepour, Nasir Ahmed, and Behnaam Aazhang, Rice University

Category C – Array Processing and MIMO
“Uniform Channel Decomposition for MIMO Communications”
Yi Jiang and Jian Li, University of Florida
“On the Capacity of the Broadband Relay Networks”
Guoqing Li and Hui Liu, University of Washington

Category D - Biomedical Signal and Image Processing
“Automated Detection and Classification of Vascular Abnormalities in Diabetic Retinopathy”
Deepika Vallabha, Kamesh Namuduri, Ramprasad Dorairaj, Wichita State University and Hilary Thompson, Louisiana State University

Category E – Signal Processing Algorithms and Applications
“Maximum Likelihood Diffusive Source Localization Based on Binary Observations”
Yoav Levinbook and Tan Wong, University of Florida
“Detection Performance Limits of Channel Impaired Distributed Sensor Networks”
Qi Cheng, Biao Chen, Pramod Varshney, Syracuse University

Category F – Architecture and Implementation
“Optimal Tower Fields for Hyperelliptic Curve Cryptosystems”
Selcuk Baktir and Berk Sunar, Worcester Polytechnic Institute; Jan Pelzl, Thomas Wollinger, and Christof Paar, Ruhr University Bochum
“An Efficient 21.56Gbps AES Implementation on FPGA”
Xinmiao Zhang and Keshab Parhi, University of Minnesota

Category G – Speech, Image, and Video Processing
“A Generalisation of the Delogne-Kasa Method for Fitting Hyperspheres”
Emanuel Zelniker and Vaughan Clarkson, The University of Queensland
“Blind Image Deconvolution using Constrained Variance Maximization”
Dalong Li and Russell Mersereau, Georgia Institute of Technology; Steven Simske, Hewlett Packard

2004 Asilomar Conference Session Schedule

Coffee breaks will be at 10:10 AM and 3:10 PM, except on Monday morning when refreshments will be served outside Merrill Hall from 9:45-10:15 AM.

Monday, November 8

CONFERENCE OPENING AND PLENARY SESSION 8:30 – 9:45 AM

1. Welcome from the General Chairperson:

Prof. Keith A. Teague
Oklahoma State University

2. Session MA1a Sidney Parker Memorial Lecture for the
2004 Asilomar Conference

Prof. Edward J. Delp
Video and Image Processing Laboratory
School of Electrical and Computer Engineering
Purdue University
West Lafayette, Indiana

Signal and Image Processing: What Went Wrong?

Abstract

Many of us in the signal and image processing community believe that signal processing has had a powerful impact on technology and has contributed many new ideas and products. Is this really true? In this talk I argue that perhaps we feel too good about our community and ourselves and maybe we should look a little harder at what we promised and what we delivered.

Biography

Edward J. Delp was born in Cincinnati, Ohio. He received the B.S.E.E. (cum laude) and M.S. degrees from the University of Cincinnati, and the Ph.D. degree from Purdue University. In May 2002 he received an Honorary Doctor of Technology from the Tampere University of Technology in Tampere, Finland. From 1980-1984, Dr. Delp was with the Department of Electrical and Computer Engineering at

the University of Michigan, Ann Arbor, Michigan. Since August 1984, he has been with the School of Electrical and Computer Engineering and the Department of Biomedical Engineering at Purdue University, West Lafayette, Indiana. In 2002 he received a chaired professorship and currently is The Silicon Valley Professor of Electrical and Computer Engineering and Professor of Biomedical Engineering. His research interests include image and video compression, multimedia security, medical imaging, multimedia systems, communication and information theory. Dr. Delp is a Fellow of the IEEE, a Fellow of the SPIE, a Fellow of the Society for Imaging Science and Technology (IS&T), and a Fellow of the American Institute of Medical and Biological Engineering. In 2000 he was selected a Distinguished Lecturer of the IEEE Signal Processing Society. In 1990 he received the Honeywell Award and in 1992 the D. D. Ewing Award, both for excellence in teaching. In 2001 he received the Raymond C. Bowman Award for fostering education in imaging science from the Society for Imaging Science and Technology (IS&T). In 2004 he received the Wilfred Hesselberth Award for Teaching Excellence. In 2002 he was awarded a Nokia Fellowship.

**Program of 2004
Asilomar Conference
on
Signals, Systems, and Computers**

**Technical Program Chairman
Prof. Scott T. Acton
University of Virginia**

Session MA1b Radar and Remote Sensing

Chair: *Randy Moses & Bin Yu*

- MA1b-1 Performance Prediction in Adaptive Noise Radar 10:15 AM
Brian Rigling, Wright State University
- MA1b-2 Nonparametric Spectral Analysis with Missing Data via the EM Algorithm 10:40 AM
Jian Li, University of Florida; Petre Stoica, Uppsala University; Yanwei Wang, University of Florida; Thomas Marzetta, Bell Laboratories
- MA1b-3 Synthetic Aperture Radar Visualization 11:05 AM
Randolph Moses, Lee Potter, Emre Ertin, Christian Austin, The Ohio State University
- MA1b-4 Gust Front Detection in weather radar images by Entropy Matched Functional Template: Summary 11:30 AM
Osama Alkhoul, Victor DeBrunner, University of Oklahoma

Session MA2b Emerging Technologies

Chair: *Graham Jullien*

- MA2b-1 Realizing Stochastically Assembled Nanoarrays 10:15 AM
John E. Savage, Brown University
- MA2b-2 Split Current Quantum-Dot Cellular Automata 10:40 AM
Konrad Walus, University of Calgary; Rumi Zhang, Wei Wang, University of Western Ontario; Graham A. Jullien, University of Calgary
- MA2b-3 How Computer Aided Design (and Computer Science) can help to Drive Physical Science at the Nano-scale. 11:05 AM
Michael Niemier, Georgia Institute of Technology
- MA2b-4 The Bridge: Electron Science driven technologies 11:30 AM
Kamran Eshraghian, Edith Cowan University
- MA2b-5 Robust Digital Control of Nonlinear Micro-Electro-Mechanical Actuators using Sliding-Mode Control 11:55 AM
N. Yazdi, University of Michigan; H. S. Sane, United Technologies Research Lab; C. H. Mastrangelo, Corning Research Laboratory

Session MA3b Bioinformatics / Genomic Signal Processing

Chair: *Gaurau Shaarma*

- MA3b-1 Classification M-FISH Images Using Fuzzy C-means Clustering Algorithm and Normalization Approaches 10:15 AM
Yu-Ping Wang, Sunil Bharathi, University of Missouri, Kansas City; Kenneth Castleman, Advanced Digital Imaging Research
- MA3b-2 DFT based DNA Splicing Algorithms for Prediction of Protein Coding Regions 10:40 AM
Suprakash Datta, Amir Asif, York University
- MA3b-3 Location Proteomics: Determining the Optimal Grouping of Proteins according to their Subcellular Location Patterns as determined from Fluorescence Microscope Images 11:05 AM
Robert Murphy, Carnegie Mellon University
- MA3b-4 Environment aware chem/bio detection and classification 11:30 AM
Shubha Kadambe, William Barvosa-Cartet, Qin Jiang, HRL Laboratories, LLC
- MA3b-5 A Communication Systems Framework for Microarray Data Acquisition 11:55 AM
Gaurav Sharma, University of Rochester

Session MA4b Power-Aware DSP Applications

Chair: *Jeff Coleman*

- MA4b-1 Improved multiple constant multiplication using a minimum spanning tree 10:15 AM
Oscar Gustafsson, Henrik Ohlsson, Lars Wanhammar, Linkoping University
- MA4b-2 Watermarking Multiple Constant Multiplications Solutions 10:40 AM
Jennifer L. Wong, Miodrag Potkonjak, University of California, Los Angeles
- MA4b-3 Comparison of Graphical and Sub-expression Elimination Methods for Design of Efficient Multipliers 11:05 AM
Andrew G. Dempster, University of Westminster; Malcolm D. Macleod, QinetiQ Ltd.; Oscar Gustafsson, Linkoping University
- MA4b-4 Low-complexity hybrid form FIR filters using matrix multiple constant multiplication 11:30 AM
Oscar Gustafsson, Linkoping University; Jeffrey O. Coleman, Naval Research Laboratory; Andrew G. Dempster, University of Westminster; Malcolm D. Macleod, QinetiQ Ltd.

Session MA5b Optical Communications and Networks

Chair: *Leslie Rusch*

- MA5b-1 Effects of Crosstalk on the Performance and Design of All-Optical Networks with Fiber Nonlinearities 10:15 AM
Maite Brandt-Pearce, Yvan Pointurier, University of Virginia
- MA5b-2 Intensity noise reduction of incoherent sources using semiconductor optical amplifiers 10:40 AM
David Richardson, A. D. Mc Coy, P. Horak, M. Ibsen, Ben Thomsen, University of Southampton
- MA5b-3 Intensity Noise in Non-coherent to Coherent Wavelength Conversion in Optical Semiconductor Optical Amplifiers 11:05 AM
Leslie Rusch, Pascal Lemieux, Walid Mathlouthi, Mathieu Roy, Université Laval
- MA5b-4 Noise Suppression and Optical ASE Modulation in Saturated Semiconductor Optical Amplifiers 11:30 AM
Fumio Koyama, Hiroyuki Uenohara, Tokyo Institute of Technology
- MA5b-5 Impact of Beat Noise on an Incoherent OCDMA System with Temporal Spreading 11:55 AM
Bin Ni, James Lehnert, Purdue University

Session MA6b Applications of Adaptive Filtering in Digital Communications

Chair: *Rahul Singh*

- MA6b-1 On the Statistical Efficiency of LMS Algorithms 10:15 AM
Bernard Widrow, Stanford University
- MA6b-2 Adaptive Algorithms for OFDMA Wireless Ad Hoc Networks with Multiple Antennas 10:40 AM
Vishwanath Venkataraman, John Shynk, University of California, Santa Barbara
- MA6b-3 Mitigation of Unknown Narrowband Interference Using Instantaneous Error Updates 11:05 AM
Arun Batra, University of California, San Diego; Takeshi Ikuma, Virginia Tech; James Zeidler, University of California, San Diego; A. A. (Louis) Beex, Virginia Tech; John Proakis, University of California, San Diego
- MA6b-4 Assessment of the efficiency of the LMS algorithm based on spectra information 11:30 AM
Aaron Flores, Bernard Widrow, Stanford University
- MA6b-5 A Variable Leaky LMS Adaptive Algorithm 11:55 AM
Max Kamenetsky, Bernard Widrow, Stanford University

Session MA7b Mathematical Models for Image Processing

Chair: *Jonathan Manton*

- MA7b-1 Geometric Optimization for Pose Estimation of Quadratic Surfaces 10:15 AM
Pei Yean Lee, John Moore, RSISE
- MA7b-2 Newton-like Methods for Numerical Optimization on Manifolds 10:40 AM
Knut Hueper, National ICT Australia Ltd.; Jochen Trumpf, Australian National University
- MA7b-3 An Iterative Algorithm Converging to the Principal Subspace Projection Operator with Applications 11:05 AM
Jonathan Manton, University of Melbourne; Yingbo Hua, University of California, Riverside; Jim Reilly, McMaster University
- MA7b-4 Performance Analysis of Super-Resolution Imaging 11:30 AM
Dirk Robinson, Peyman Milanfar, University of California, Santa Cruz

Session MP1 Advanced Signal Processing Biomedical Imaging

Chair: *Mike Insana*

- MP1-1 Statistical Image Reconstruction for Lesion Detection 1:30 PM
Jinyi Qi, University of California
- MP1-2 Error bound for ultrasonic strain imaging with coded excitation 1:55 PM
Jie Liu, Huini Du, Michael Insana, University of California, Davis
- MP1-3 Synthetic Aperture Methods for Ultrasonic Angular Scatter Imaging 2:20 PM
Drake Guenther, Karthik Ranganathan, M. J. McAllister, University of Virginia; K. W. Rigby, GE Global Research; William F. Walker, University of Virginia
- MP1-4 Recursive identification of pulse echo impulse responses for multi-source transmission 2:45 PM
Fredrik Gran, Jorgen Arendt Jensen, Technical University of Denmark
- BREAK 3:10 PM
- MP1-5 Spline Based Time Delay Estimation 3:30 PM
Francesco Viola, William F. Walker, University of Virginia
- MP1-6 Frequency Domain Algebraic Image Reconstruction Technique 3:55 PM
Yibin Zheng, University of Virginia

MP1-7 Observer efficiency in discrimination tasks 4:20 PM
simulating malignant and benign breast lesions with
ultrasound
*Craig Abbey, Roger Zemp, Jie Liu, Michael Insana,
University of California, Davis*

MP1-8 3D In-Vivo MR-Elastography of the Breast 4:45 PM
Ralph Sinkus, Philips Research

Session MP2 Modulation and Detection

Chair: *Tommy Guess*

MP2-1 Channel Estimation in Overloaded CDMA 1:30 PM
Systems
Satya Ponnaluri, Tommy Guess, University of Virginia

MP2-2 Code and constellation optimization for 1:55 PM
efficient noncoherent communication
*Noah Jacobsen, Upamanyu Madhow, University of
California, Santa Barbara*

MP2-3 Will ET Write or Radiate: inscribed mass vs. 2:20 PM
electromagnetic channels
*Christopher Rose, Rutgers University; Gregory Wright,
Antiope Associates*

MP2-4 A Low Complexity Iterative Detector for 2:45 PM
MIMO Systems
Costas Georghiades, Yongzhe Xie, Texas A&M University

BREAK 3:10 PM

MP2-5 Outage Capacities for Multi-Antenna, 3:30 PM
Multi-Access Channels
*Mahesh Varanasi, Narayan Prasad, University of
Colorado*

MP2-6 Matched Filtering with Rate Back-off for 3:55 PM
Low Complexity Communications in Very Large
Delay Spread Channels
*Majid Emami, Mai Vu, Jan Hansen, Arogyaswami
Paulraj, Stanford University*

MP2-7 Analog Precoder and Equalizer Design for 4:20 PM
Random Broadband Fading Multichannel
Communication
Zhifei Fan, Louis L. Scharf, Colorado State University

MP2-8 Near Maximum Likelihood Detection Using 4:45 PM
An Interior Point Method and Semidefinite
Programming
*Hedi Laamari, Jean Claude Belfiore, ENST-Paris; Nicolas
Ibrahim, Wavecom S.A.*

Session MP3 Adaptive Signal Processing

Chair: *Louis Beex*

MP3-1 Mean-Square Performance of Adaptive Filters 1:30 PM
Using Averaging Theory
*H.-C. Chin, Pohang University of Science and
Technology; Ali H. Sayed, University of California, Los
Angeles; Woo-Jin Song, Pohang University of Science and
Technology*

MP3-2 A Sparse Reconfigurable Adaptive Filter 1:55 PM
Based on a Photonic Switch
*John Shynk, John Bowers, University of California, Santa
Barbara*

MP3-3 A Particle Swarm Optimization-LMS Hybrid 2:20 PM
Algorithm for Adaptive Filtering
*D. J. Krusienski, W. Kenneth Jenkins, Pennsylvania State
University*

MP3-4 Statistical Analysis of a Pseudo Affine 2:45 PM
Projection Algorithm in Non-Stationary
Environments
*Sergio J. M. de Almeida, Catholic University of Pelotas;
Neil J. Bershad, University of California, Irvine; Jose
Carlos M. Bermudez, Federal University of Santa
Catarina*

BREAK 3:10 PM

MP3-5 On Affine Projection Direction Vector (Non-) 3:30 PM
Whiteness
*A. A. (Louis) Beex, Virginia Tech; Sundar G. Sankaran,
ArrayComm, Inc.*

MP3-6 Real-Valued Delayless Subband Affine 3:55 PM
Projection Algorithm for Acoustic Echo
Cancellation
*Hesu Huang, Chris Kyriakakis, University of Southern
California*

MP3-7 Multirate Signal Processing for Multiple 4:20 PM
Listener Low Frequency Room Acoustic
Equalization
*Sunil Bharitkar, Audyssey Labs., Inc; Chris Kyriakakis,
University of Southern California*

MP3-8 An Alternative Design for Multichannel And 4:45 PM
Multiple Listener Room Acoustic Equalization
Sunil Bharitkar, Audyssey Labs., Inc

Session MP4a Radar Array Processing

Chair: *Joe Guerci*

MP4a-1 Computationally Efficient Beamforming on 1:30 PM
Real Experimental Data
*Claudio Marino, Paul Chau, University of California, San
Diego*

- MP4a-2 A Novel Space-Time Adaptive Processing Algorithm 1:55 PM
Harri Saarnisaari, Henri Puska, Centre for Wireless Communications
- MP4a-3 Three-Phase Sample Timing on a Wideband Triangular Array of 4/3 the Usual Density Reduces the Nyquist Rate for Far-Field Signals by Two Thirds 2:20 PM
Jeffrey O. Coleman, Naval Research Laboratory
- MP4a-4 Estimation of Space-Time Clutter Rank for Subarrayed Data 2:45 PM
Louis Fertig, MIT Lincoln Laboratory

Session MP4b Space-Time Coded/MIMO Radar

Chair: *Frank Robey*

- MP4b-1 Transmit Beamforming for MIMO Radar Systems using Partial Signal Correlation 3:30 PM
Daniel R. Fuhrmann, Geoffrey San Antonio, Washington University in St. Louis
- MP4b-2 MIMO Radar Theory and Experimental Results 3:55 PM
Frank Robey, Scott Coumts, Jeff McHarg, Dennis Weikle, Kevin Cuomo, MIT Lincoln Laboratory
- MP4b-3 Performance of MIMO Radar Systems: Advantages of Angular Diversity 4:20 PM
Eran Fishler, New York University; Alex Haimovich, New Jersey Institute of Technology; Rick Blum, Lehigh University; Len Cimini, University of Delaware; Reinaldo Valenzuela, Bell Laboratories, Lucent Technologies
- MP4b-4 MIMO Radar Imaging System Performance Issues 4:45 PM
Keith Forsythe, Dan Bliss, MIT Lincoln Laboratory

Session MP5 OFDM

Chair: *Ufuk Tureli*

- MP5-1 A Multiuser OFDM System With User Cooperation 1:30 PM
Sarod Yatawatta, Athina Petropulu, Drexel University
- MP5-2 On the Optimality of the OFDMA Network 1:55 PM
Guoqing Li, Hui Liu, University of Washington
- MP5-3 Coded Block OFDM for the Frequency Selective Fading Channel 2:20 PM
Michael McCloud, University of Pittsburgh
- MP5-4 Subcarrier Allocation in OFDMA Systems: Beyond water-filling? 2:45 PM
Somsak Kittipiyakul, Tara Javidi, University of Washington

BREAK 3:10 PM

- MP5-5 ML Symbol Synchronization for OFDM-based WLANs in Unknown Frequency-Selective Fading Channels 3:30 PM
Erchin Serpedin, Yik-Chung Wu, Texas A&M University
- MP5-6 Improved Codes for Differential Space-Time-Frequency Coded OFDM 3:55 PM
Qian Ma, Cihan Tepedelenlioglu, Arizona State University
- MP5-7 A Mixture Kalman Filter Approach for Blind OFDM Channel Estimation 4:20 PM
Ruifeng Zhang, Wei Chen, Drexel University
- MP5-8 Experimental Studies on Optimal Space Frequency Group Codes 4:45 PM
Yao Chen, Radhika Iyer, Uf Tureli, Stevens Institute of Technology

Session MP6 Image and Video Security, Retrieval, and Watermarking

Chair: *Tom Lookabaugh*

- MP6-1 Watermarking to Track Motion Picture Theft 1:30 PM
Jeffrey Bloom, Christos Polyzois, Sarnoff Corporation
- MP6-2 Lightweight Security Principles for Wireless Multimedia-Based Sensor Networks 1:55 PM
Deepa Kundur, Takis Zourntos, Texas A&M University
- MP6-3 Selective Encryption, Information Theory, and Compression 2:20 PM
Tom Lookabaugh, University of Colorado
- MP6-4 Exposing Digital Content Piracy: Approaches, Issues, and Experiences 2:45 PM
Patrick McDaniel, Simon Byers, Dave Kormann, AT&T; Lorrie Cranor, Computer Science Department, CMU; Eric Cronin, University of Pennsylvania

BREAK 3:10 PM

- MP6-5 A Cryptographic Watermark Embedding Technique 3:30 PM
Jian Ren, Tongtong Li, Michigan State University; Mehrdad Nadooshan, Avaya, Inc.
- MP6-6 Compact representation and combination of MPEG-7 color and texture descriptors for efficient image retrieval 3:55 PM
Ramprasath Dorairaj, Kamesh Namuduri, Wichita State University
- MP6-7 A time-frequency inspired robust image watermarking 4:20 PM
Mahmood Al-khassaweneh, Selin Aviyente, Michigan State University

MP6-8 Sub-Gaussian Rotation-Invariant Features for Steerable Wavelet-Based Image Retrieval 4:45 PM
George Tzagkarakis, University of Crete; Baltasar Beferull-Lozano, Swiss Federal Institute of Technology (EPFL); Panagiotis Tsakalides, University of Crete

Session MP7 Speech and Audio Coding

Chair: *Jerry Gibson*

MP7-1 Improving Upon Toll Quality Speech for VoIP 1:30 PM
Richard Cox, AT&T Labs; David Malah, Technion - Israel Institute of Technology; David Kapirow, AT&T Labs

MP7-2 Voice Over IP: The Challenges Behind the Vision 1:55 PM
Fouad A. Tobagi, Stanford University

MP7-3 Packet Loss Concealment in a Secure Voice over IP Environment 2:20 PM
Christopher M. White, Keith A. Teague, Oklahoma State University; Edward J. Daniel, Northrop Grumman

MP7-4 Spectral Estimation Performance of Circular Linear Prediction Modeling for Real-Speech Signals 2:45 PM
Ali Erdem Ertan, Tom P. Barnwell III, Georgia Institute of Technology

BREAK 3:10 PM

MP7-5 A Fast Search Technique for Multistage Vector Quantization Based on the Introduction of Tree-Structure to each Stage 3:30 PM
Wai Chu, DoCoMo USA Labs

MP7-6 High Quality Sound from Small Loudspeakers Using the Exact Inverse 3:55 PM
Khosrow Lashkari, DoCoMo USA Labs

MP7-7 SNR Scalability, Multiple Descriptions, and Perceptual Distortion Measures 4:20 PM
Jerry Gibson, University of California, Santa Barbara

MP7-8 Improved Perceptually Inspired Speech Enhancement Using a Psychoacoustic Model 4:45 PM
Rongqiang Hu, David V. Anderson, Georgia institute of Technology

Session MP8a1 Digital System Implementations

Chair: *Neil Burgess*

MP8a1-1 Array based Architecture for EZW Image Encoding on FPGA using HandelC
Suchitra Sathyanarayana, Chai Soon Lim, Srikanthan Thambipillai, Nanyang Technological University

MP8a1-2 Achieving Hardware-Efficient Neural Network Based Pattern Recognition System Through Linear Approximation
Siew Kei Lam, Srikanthan Thambipillai, Nanyang Technological University; Christopher T. Clarke, University of Bath; Han Sim (Eugene) Low, Nanyang Technological University

MP8a1-3 Bat on an FPGA: A bio-mimetic implementation of a highly parallel signal processing system
Christopher T. Clarke, Lin Qiang, University of Bath

MP8a1-4 Efficient Implementation of Digital Filters Using Novel Reconfigurable Multiplier Blocks (ReMB)
Suleyman Sirri Demirsoy, Andrew G. Dempster, Izzet Kale, University of Westminster

MP8a1-5 An Efficient 21.56Gbps AES Implementation on FPGA
Xinmiao Zhang, Keshab K. Parhi, University of Minnesota

MP8a1-6 Implementation of Scalable Elliptic Curve Cryptosystem Crypto-Accelerators for GF(2^m)
Aaron Cohen, Keshab K. Parhi, University of Minnesota

MP8a1-7 On the Design of an On-line Complex FIR Filter
Robert McIlhenny, California State University, Northridge; Milos D. Ercegovic, University of California, Los Angeles

MP8a1-8 A Dual-field Modular Division Algorithm and Architecture for Application Specific Hardware
Alexandre Tenca, Lo'ai Tawalbeh, Song Park, Cetin Koc, Oregon State University

MP8a1-9 Interfacing a High Speed Crypto Accelerator to an Embedded CPU
Alireza Hodjat, Ingrid Verbauwhe, University of California, Los Angeles

MP8a1-10 Real Time STAP for UESA RADAR
R. David Dikeman, Carleton Moore, Lockheed Martin Corp.; Kristine Bell, Harry Van Trees, George Mason University

MP8a1-11 Balancing the Tradeoffs Between Coefficient Quantization and Internal Quantization in FIR Digital Filters
Minoda Magar, Linda DeBrunner, University of Oklahoma

MP8a1-12 On-Line IEEE Floating-Point Multiplication and Division for Reduced Power Dissipation
Peter-Michael Seidel, Southern Methodist University

MP8a1-13 An Efficient PIM (Processor-In-Memory) Architecture for BLAST
Jung-Yup Kang, University of Southern California; Jean-Luc Gaudiot, University of California, Irvine

MP8a1-14 Error Bound Reduction for Fixed-Width Modified Booth Multiplier
Kyung-Ju Cho, Seong-Min Lee, Seong-Hun Park, Jin-Gyun Chung, Chonbuk National University

- MP8a1-15 A Unified Unsigned/Signed Binary Multiplier
Guoping Wang, Indiana University-Purdue University
- MP8a1-16 Sub-Pico Joule Switching High-Speed Reliable CMOS Circuits Are Feasible
Jabulani Nyathi, Valeriu Beiu, Washington State University; Snorre Aunet, University of Oslo
- MP8a1-17 3D Graphics Tile-Based Systolic Scan-Conversion
Dan Crisu, Stamatis Vassiliadis, Sorin Cotofana, Delft University of Technology; Petri Liuha, Nokia Research Center
- MP8a1-18 Optimal Tower Fields for Hyperelliptic Curve Cryptosystems
Selcuk Bakir, Worcester Polytechnic Institute; Jan Pelz, Thomas Wollinger, Ruhr University Bochum; Berk Sunar, Worcester Polytechnic Institute; Christof Paar, Ruhr University Bochum
- MP8a1-19 Unified Decoder Architectures for Repeat-Accumulate and LDPC Codes
Mohammad Mansour, American University of Beirut
- MP8a1-20 Sparse-coefficient polynomial approximations for hardware implementations
Nicolas Brisebarre, Jean-Michel Muller, Arnaud Tisserand, LIP ENS Lyon
- MP8a1-21 Design and performance analysis of OFDMA Modulator based on IEEE 802.16a standard
Hyeong Sook Park, Electronics and Telecommunications Research Instit
- MP8a1-22 Efficient High-Speed Quasi-Cyclic LDPC Decoder Architecture
Yuping Zhang, University of Minnesota; Zhongfeng Wang, Oregon State University; Keshab K. Parhi, University of Minnesota
- MP8a1-23 Implementation and Evaluation of an OFDM-Based MIMO System
Zhipeng Liu, Jeremy Parks, Scott Morrison, Karl Gugel, University of Florida
- MP8a1-24 Implementation of an LDPC Decoder on a Vector Signal Processor
Gottfried Lechner, Telecommunications Research Center Vienna (ftw.); Andreas Bolzer, On Demand Microelectronics; Jossy Sayir, Telecommunications Research Center Vienna (ftw.); Markus Rupp, Technical University of Vienna

Session MP8a2 Image Processing for Biometrics

Chair: *Robert Ives*

- MP8a2-1 Investigations in Uncooled Infrared Imaging Face Recognition
Colin Lee, Monique Fargues, Gamani Karunasiri, Naval Postgraduate School

- MP8a2-2 Iris Recognition using Histogram Analysis
Robert Ives, Anthony Guidry, Delores Etter, U.S. Naval Academy
- MP8a2-3 Palmprint Recognition Using Correlation Filter Classifiers
Pablo Hennings, B.V.K. Vijayakumar, Carnegie Mellon University
- MP8a2-4 A Pseudo-spectral Fusion Approach to Fingerprint Matching.
Sanjeev Malalur, Michael Manry, University of Texas, Arlington
- MP8a2-5 Secure Fuzzy Vault Based Fingerprint Verification System
Shenglin Yang, Ingrid Verbauwhede, University of California, Los Angeles
- MP8a2-6 Iris Pattern Extraction using Bit-Plane Analysis
Bradford Bonney, Robert Ives, Delores Etter, Yingzi Du, U.S. Naval Academy
- MP8a2-7 Efficient Boosting for Synthesizing a Minimally Compact Reduced Complexity Correlation Filter Bank for Biometric Identification
Marios Savvides, B.V.K. Vijayakumar, Pradeep Khosla, Carnegie Mellon University
- MP8a2-8 Face Authentication of Variable Illumination Low-Bitrate JPEG2000 Wavelet Face Images using Advanced Correlation Filters for mobile devices
Surya Wijaya, Marios Savvides, B.V.K. Vijayakumar, Carnegie Mellon University

Session MP8b Communications in Non-Ideal Channels

Chair: *Amy Bell*

- MP8b-1 Precise Performance Analysis of MRC Diversity in Micro-Cellular system with cochannel interference
Kathiravetpillai Sivanesan, Norman C. Beaulieu, University of Alberta
- MP8b-2 On the Performance of V-BLAST with Zero-Forcing Successive Interference Cancellation Detector
Cong Shen, Tsinghua University
- MP8b-3 Blind Image Suppression and Carrier Tracking in Direct-Conversion Receivers Based on I/Q Signal Separation
Mikko Valkama, Markku Renfors, Tampere University of Technology; Visa Koivunen, Helsinki University of Technology
- MP8b-4 Space-Time Coded CDMA: Blind Equalization and Multiuser Detection
Xiaodong Yue, Central Missouri State University; Weihua Zhu, Howard Fan, University of Cincinnati

- MP8b-5 On the Effect of Power and Channel Estimation in Equalized Blind PIC for Downlink Multirate CDMA Communications
Belkacem Mouhouche, Wavecom S.A. and Telecom Paris; Karim Abed-Meraim, Telecom Paris; Nicolas Ibrahim, Wavecom S.A.
- MP8b-6 Time-Hopping Code Characterization for Multi-User Interference Mitigation in Ultra Wide Band Impulse Radio
Anne-Laure Deleuze, Christophe Le Martret, THALES Land and Joint Systems; Philippe Ciblat, Ecole Nationale Supérieure des Telecommunications
- MP8b-7 Iterative Joint Channel Estimation and Interference Cancellation Using a SISO-SAGE Algorithm for Coded DS-CDMA
Bin Hu, Alexander Kocian, Bernard Fleury, Aalborg University; Lars Rasmussen, University of South Australia; Asger Hviid, Romain Piton, Aalborg University
- MP8b-8 Ternary 2D Orthogonal Variable-Spreading-Factor Codes for Multichannel DS-UWB
Di Wu, Predrag Spasojevic, Ivan Seskar, Rutgers University
- MP8b-9 Dynamic Resource Allocation for Frequency- Selective Orthogonal QS-CDMA Systems
Slawomir Stanczak, Fraunhofer German-Sino Lab for Mobile Comm.; Angela Feistel, Technical University of Berlin
- MP8b-10 Blind Identification of Two Dimensional Volterra Models Using Minimax Type of Optimization and Higher Order Cumulants
Duangrat Gansawat, Tania Stathaki, Imperial College London
- MP8b-11 Blind Timing and Channel Estimation for Ultra-Wideband Multi-User Ad Hoc Access
Xiliang Luo, Georgios B. Giannakis, University of Minnesota
- MP8b-12 Optimal Integration Time Analysis for Ultra-wideband Cross-correlation Receiver
Yi-Ling Chao, University of Southern California
- MP8b-13 Novel Ultra-wideband Transmitted Reference Systems
Yi-Ling Chao, Robert A Scholtz, University of Southern California
- MP8b-14 A New Pulse Shaped Frequency Division Multiplexing Technique for Doubly Dispersive Channels
Sibasish Das, Philip Schniter, The Ohio State University
- MP8b-15 A Multicarrier Receiver for Partial Retransmissions
Jeremy Roberson, Zhi Ding, University of California, Davis
- MP8b-16 Iterative Frequency-Domain Equalization for Single-Carrier Systems in Doubly-Dispersive Channels
Philip Schniter, Hong Liu, The Ohio State University
- MP8b-17 A Multi-Code Space-Frequency RAKE Receiver
Hai Feng Chen, Volker Jungnickel, Volker Pohl, Fraunhofer Institute for Telecommunications; Clemens von Helmolt, Fraunhofer Institute for Telecommunications
- MP8b-18 A model averaging approach for equalizing sparse communication channels
Yngve Selen, Petre Stoica, Niclas Sandgren, Uppsala University
- MP8b-19 A Low-Cost Scalable Matched Filter Bank Receiver for GFSK Signals with Carrier Frequency and Modulation Index Offset Compensation
Charles Tibenderana, Stephan Weiss, University of Southampton
- MP8b-20 Multiple-Channel Optimized Quantizers for Rayleigh Fading Channels
Yugang Zhou, Wai-Yip Chan, Tiago Falk, Queen's University
- MP8b-21 Semi-blind Multi-channel Identification in Asynchronous Multi-user OFDM Systems
Hyejung Jung, Michael Zoltowski, Purdue University
- MP8b-22 Adaptive Wiener Interpolation Channel Estimation for Pilot Symbol Assisted MIMO OFDM in low mobility environment
Weijun Zhu, Michael Fitz, University of California, Los Angeles
- MP8b-23 Performance of Space-Frequency Codes in MIMO Channels with Frequency Offset
Dung Ngoc Dao, Chintha Tellambura, University of Alberta
- MP8b-24 Interference Suppression for MC-CDMA by Frequency Domain Oversampling
Brandon Hombs, James Lehnert, Purdue University
- MP8b-25 Optimization of SNDR in the Presence of Amplitude Limited Nonlinearity and Multipath Fading
Hua Qian, Raviv Raich, Guotong Zhou, Georgia Institute of Technology
- MP8b-26 Performance Analysis of Multiuser OFDM with Optimum Combining
Siamak Sorooshiyari, David Daut, Rutgers University
- MP8b-27 Estimating Parameters of Received UWB Monocycles
Chee-Cheon Chui, Robert A Scholtz, University of Southern California
- MP8b-28 A Novel Decision Feedback Equalizer Design Based on Generalized Space Translation
Chiang-yu Chen, Stanford University; Conor Heneghan, University College Dublin; John Cioffi, Stanford University
- MP8b-29 Long Range Channel Prediction for Adaptive OFDM Systems
Ian Wong, Antonio Forenza, Robert W. Heath, Jr., Brian L. Evans, University of Texas, Austin

Session TA1 Multi-Scale Modeling of Biological Systems

Chair: *Shayn Peirce*

- TA1-1 Functionally and Structurally Integrated Computational Models of the Heart 8:30 AM
Andrew McCulloch, University of California, San Diego
- TA1-2 Cellular Automata Models of Biological Patterning 8:55 AM
Shayn Peirce, University of Virginia
- TA1-3 Building Blocks for Computational Models of Angiogenesis 9:20 AM
Aleksander S. Popel, Feilim Mac Gabhann, Emmanouil D. Karagiannis, Johns Hopkins University
- TA1-4 Multivariate approaches for revealing biological signal-response relationships 9:45 AM
Kevin Janes, Douglas Lauffenburger, Massachusetts Institute of Technology
- BREAK 10:10 AM
- TA1-5 Identification of Extended Hammerstein Model for Renal Hemodynamics 10:30 AM
Mathieu Lorentz, Geoffrey A. Williamson, Illinois Institute of Technology; Karen A. Griffin, Anil K. Bidani, Loyola University Medical Center
- TA1-6 On Nonlinear System Modeling Using Principal Dynamic Modes 10:55 AM
Geoffrey A. Williamson, Illinois Institute of Technology; Rifat Hacioglu, Zonguldak Karaelmas University
- TA1-7 A Self Organizing Map Approach to Physiological Data Analysis For Enhanced Group Performance 11:20 AM
Adele Doser, Sandia National Laboratories
- TA1-8 Measurement of Nonlinear 2nd-Order Kernels Using Gaussian and Natural Inputs 11:45 AM
Ulrich Nuding, Ludwig-Maximilians-University Munich; Christoph Zetzsche, Kerstin Schill, University of Bremen; Gert Hauske, Technical University Munich

Session TA2a Wireless Implementations

Chair: *Joe Cavalloro*

- TA2a-1 Compact FPGA Hardware Accelerator for Functional Verification & Rapid Prototyping of 4G Wireless Systems 8:30 AM
Yuanbin Guo, Dennis McCain, Nokia Inc.
- TA2a-2 Implementation Issues in Spectrum Sensing for Cognitive Radios 8:55 AM
Danijela Cabric, Shridhar Mubaraq Mishra, Robert W. Brodersen, BWRC
- TA2a-3 Options for Arbitrary Resamplers in FPGA-Based Modulators 9:20 AM
Chris Dick, Xilinx; fred harris, San Diego State University

- TA2a-4 Trained versus Noncoherent Space-Time Coding: Validation in Field Testing 9:45 AM
Weijun Zhu, Heechoon Lee, Daniel Liu, ShingWa Wong, David Browne, Sunder Venkateswaren, Michael Fitz, University of California, Los Angeles

Session TA2b High Performance Processing

Chair: *Carlo Luschi*

- TA2b-1 Implementation Aspects of High-Speed Wireless Multicarrier LAN/PAN Systems 10:30 AM
Stephan ten Brink, Ravi Mahadevappa, Realtek Semiconductors
- TA2b-2 Exact and Approximated Expressions of the Log-Likelihood Ratio for 16-QAM Signals 10:55 AM
Steve Allpress, Carlo Luschi, Steve Felix, Icera Semiconductor
- TA2b-3 Performance and Implementation Aspects of a 3GPP HSDPA Mobile Receiver 11:20 AM
Rudolf Tanner, Moritz Harteneck, UbiNetics Ltd.
- TA2b-4 Computing the feedback filter of the decision feedback equalizer at the FFT speed 11:45 AM
Arnaldo Spalvieri, Maurizio Magarini, Politecnico di Milano

Session TA3a Signal Processing for Agile Sensors

Chair: *Darryl Morrell*

- TA3a-1 Sensor Scheduling Approaches for SWARMS and Ballistic Missile Defense 8:30 AM
C. O. Savage, W. Moran, D. E. Waagen, H. A. Schmitt, Raytheon Missile Systems
- TA3a-2 Computational Origami for Sensor Configuration and Control 8:55 AM
H. A. Schmitt, D. E. Waagen, I. Streinu, G. Barbastathis, Raytheon Missile Systems
- TA3a-3 Optimal Quantization Employing Programmable Flash Analog to Digital Converters 9:20 AM
Venkatesh Krishnan, Chris Duffy, David V. Anderson, Paul Hasler, Georgia Institute of Technology
- TA3a-4 Waveform Design and Scheduling for Agile Sensors for Target Tracking 9:45 AM
Sandeep Sira, Darryl Morrell, Antonia Papandreou-Suppappola, Arizona State University

Session TA3b Applications of Multirate Systems and Filter Banks in Modern Communications

Chair: *P. Vaidyanathan*

- TA3b-1 Optimum Resource Allocation in DMT Systems: A Separation Principle 10:30 AM
Soura Dasgupta, University of Iowa; Ashish Pandharipande, Samsung

- TA3b-2 A Guard Band Configuration Scheme for Single-Antenna Vector OFDM Systems 10:55 AM
Hong Zhang, Xiang-Gen Xia, University of Delaware
- TA3b-3 Analysis of certain new methods for blind identification of FIR channels 11:20 AM
P. P. Vaidyanathan, Borching Su, California Institute of Technology
- TA3b-4 Real-Orthogonal STBC Representation Using Filter Banks 11:45 AM
Ka Shun Carson Pun, Truong Nguyen, University of California, San Diego

Session TA4 MIMO/Space-Time Coding

Chair: *Robert Heath*

- TA4-1 Opportunistic Multicasting 8:30 AM
Hesham El Gamal, Praveen Kumar, Ohio State University
- TA4-2 Asymptotics of downlink system capacity 8:55 AM
Howard Huang, Sivarama Venkatesan, Bell Labs, Lucent Technologies
- TA4-3 Uniform Channel Decomposition for MIMO Communications 9:20 AM
Yi Jiang, Jian Li, University of Florida
- TA4-4 Space Time Block Coding with Transmitter Interference Reduction 9:45 AM
Oghenekome Oteri, Arogyaswami Paulraj, Stanford University
- BREAK 10:10 AM
- TA4-5 Information Theoretic Comparison of MIMO Wireless Communication Receivers in the Presence of Interference 10:30 AM
Dan Bliss, Keith Forsythe, MIT Lincoln Laboratory
- TA4-6 Code Design for Optical MIMO Systems Over Fading Channels 10:55 AM
Maite Brandt-Pearce, University of Virginia; Stephen Wilson, University of Virginia; Qianling Cao, Michael Baedke, University of Virginia
- TA4-7 A Lower Bound on Outage Probability of Limited Feedback MIMO Beamforming Systems 11:20 AM
Bishwarup Mondal, Robert W. Heath, Jr., University of Texas, Austin
- TA4-8 On Iterative Decoding Methods for Lattice Based Space-Time Coded Systems with EXIT Chart Analyses 11:45 AM
Yabo Li, Xiang-Gen Xia, University of Delaware

Session TA5 CDMA

Chair: *Ubil Mitra*

- TA5-1 Optimization Issues in Combined Chip and Symbol Level Equalization for Downlink WCDMA Receivers 8:30 AM
Ahmet Bastug, Dirk Slock, Eurecom Institute

- TA5-2 Robust Blind Channel Estimation and Detection for Multi-carrier CDMA 8:55 AM
Hongbin Li, Rensheng Wang, Stevens Institute of Technology
- TA5-3 On the Impact of Arrays of Heterogeneous Antennas on the Performance of CDMA Systems 9:20 AM
Brian Hughes, Huaiyu Dai, North Carolina State University
- TA5-4 SPREAD-SPECTRUM TECHNIQUES FOR DISTRIBUTED SPACE-TIME COMMUNICATION IN SENSOR NETWORKS 9:45 AM
Gwen Barriac, Raghuraman Mudumbai, Upamanyu Madhow, University of California, Santa Barbara
- BREAK 10:10 AM
- TA5-5 Iterative MAP Channel Estimation and Multiuser Detection for DS-CDMA in Frequency-Selective Fading Channels 10:30 AM
Sau-Hsuan Wu, Urbashi Mitra, C.-C. Jay Kuo, University of Southern California
- TA5-6 Reduced Rank Noncoherent Interference Suppression for CDMA Communications 10:55 AM
Ali Taha Koc, Ozgur Ozdemir, Murat Torlak, University of Texas, Dallas
- TA5-7 A Cyclostationary Receiver for Aperiodic CDMA Signals 11:20 AM
Vishwanath Venkataraman, John Shynk, University of California, Santa Barbara; Richard Gooch, Applied Signal Technology, Inc.
- TA5-8 Joint Channel Estimation and Signal Detection for Uplink MC-CDMA Systems over Time-Varying Multiple Channels 11:45 AM
Huahui Wang, Michigan State University; Tongtong Li, Michigan State University

Session TA6 Adaptive Filtering Theory

Chair: *Scott Douglas*

- TA6-1 Phase-Only Adaptive Filters: Theory and Algorithms 8:30 AM
Scott Douglas, Southern Methodist University
- TA6-2 Window Optimization Issues in Recursive Least-Squares Adaptive Filtering and Tracking 8:55 AM
Tayeb Sadiki, Mahdi Triki, Dirk Slock, Eurecom Institute
- TA6-3 Multiple Principal Components Proportionate Normalized Least Mean Squares 9:20 AM
Steven Grant, Steven Gay, University of Missouri-Rolla
- TA6-4 Affine Projection and Recursive Least Squares Adaptive Filters Employing Partial Updates 9:45 AM
Patrick Naylor, Andy Khong, Imperial College London

BREAK 10:10 AM

TA6-5 An improved variable tap-length algorithm for structure adaptation 10:30 AM
Yu Gong, Colin Cowan, Queen's University, Belfast

TA6-6 Equally constrained affine projection algorithm 10:55 AM
Sung Eun Jo, Sang-Woo Kim, Pohang University of Science and Technology

TA6-7 Adaptive Projected Subgradient Method and Set Theoretic Adaptive Filtering with Multiple Convex Constraints 11:20 AM
Konstantinos Slavakis, Isao Yamada, Nobuhiko Ogura, Tokyo Institute of Technology

TA6-8 A New Order Recursive Multiple Order Multichannel Fast QRD-RLS Algorithm 11:45 AM
Antonio Ramos, Jos Apolinrio Jr., Instituto Militar de Engenharia; Marcio Siqueira, Cisco Systems

Session TA7 Mathematical Models for Signal Processing

Chair: *Lang White*

TA7-1 Signal Design for MIMO Tracking Radar 8:30 AM
Langford White, Pinaki Ray, University of Adelaide

TA7-2 Joint Data Compression and Error Protection over Wireless Fading Channels using LDPC Codes 8:55 AM
Haitong Sun, Mihaela Vanderschaar, Zhi Ding, University of California, Davis

TA7-3 Convolutive Blind Signal Separation in Acoustics by Joint Approximate Diagonalization of Spatiotemporal Correlation Matrices 9:20 AM
Marcel Joho, Phonak

TA7-4 A Bayesian Approach to Blind Source Recovery 9:45 AM
Mike Daly, Jim Reilly, McMaster University; Jonathan Manton, University of Melbourne

BREAK 10:10 AM

TA7-5 Empirical Canonical Correlation Analysis in Subspaces 10:30 AM
Ali Pezeshki, Colorado State University; Louis L. Scharf, Mahmood R. Azimi-Sadjadi, Colorado State University

TA7-6 A Whitener for a Complex Signal Using a Complex Toeplitz + Hankel Solver 10:55 AM
Todd Moon, Utah State University; Fred Kochman, Maureen Quirk, Center for Communications Research

TA7-7 High SNR Performance Analysis of F-ESPRIT 11:20 AM
Joakim Gunnarsson, Tomas McKelvey, Chalmers University of Technology

TA7-8 Maximum Likelihood Diffusive Source Localization Based On Binary Observations 11:45 AM
Yoav Levinbook, Tan Wong, University of Florida

Session TA8a Communications I

Chair: *Maite Brandt-Pearce*

TA8a-1 Fast Timing Recovery for Linearly and Non-linearly Modulated Systems
Kai Shi, Erchin Serpedin, Texas A&M University

TA8a-2 A Low-Sensitivity On-Chip Impulse Radio Pulse Generation Method
Murat Demirkan, Richard Spencer, University of California, Davis

TA8a-3 Interspersed Sinusoidal Transforms for OFDM Systems
Giridhar Mandyam, Nokia Inc.

TA8a-4 Practical Bit Loading Schemes for Multi-Antenna Multi-User Wireless OFDM Systems
Diego Bartolome, Telecommunications Technological Center Catalonia; Ana I. Perez-Neira, Technical University of Catalonia (UPC)

TA8a-5 Evaluation of the Union bounds for Higher Order Coded Modulation Systems with Non-Ideal Bit Interleaving and Reception Diversity
Krishnakamal Sayana, Saul Gelfand, Purdue University

TA8a-6 COHERENCE: A Fundamental Overhaul of Its Definition
S. Lawrence Marple, Jr., Oregon State University

TA8a-7 Optimal OFDM downlink scheduling for UMTS HSDPA evolution
Gerhard Wunder, Chan Zhou, Fraunhofer MCI

TA8a-8 Cross-Layer (MAC and Transport) Optimal Rate Assignment in CDMA-Based Wireless Broadband Networks
Jennifer Price, Tara Javidi, University of Washington

TA8a-9 A Capacity Comparison between Time-Multiplexed and Superimposed Pilots
Mikael Tapio, Patrik Bohlin, Chalmers University of Technology

TA8a-10 Approximate ML Detection for MIMO Systems with Multistage Sphere Decoding
Tao Cui, Chintia Tellambura, University of Alberta

TA8a-11 Performance Analysis of Full-Rate, Full-Diversity Space-Time Code in Asynchronous DS/CDMA
Jin Zhang, James Lehnert, Purdue University

TA8a-12 A Low Complexity Packet Detection Algorithm for a CPM Modem
Ryan Penrod, University of California, Los Angeles; Oscar Takeshita, The Ohio State University; Michael Fitz, Weijun Zhu, University of California, Los Angeles

- TA8a-13 Channel Coding for Polarization-Mode Dispersion Limited Optical Fiber Transmission
Zhenyu Zhu, Matthew Puzio, Rick Blum, Peter Andrekson, Tiffany Li, Lehigh University; Hamid Sadjadpour, University of California, Santa Cruz
- TA8a-14 Inter-cell Interference in CSMA-CA Wireless Networks for Different Bandwidth Divisions
Maryam Owrang, Benjamin Friedlander, University of California, Santa Cruz
- TA8a-15 Bounds on Achievable Rates for Cooperative Channel Coding
Ameesh Pandya, Greg Pottie, University of California, Los Angeles
- TA8a-16 Space-Time Block Coding for Correlated Fading
Benjamin Friedlander, University of California, Santa Cruz; Joseph Francos, Ben Gurion University
- TA8a-17 Synchronization Probabilities for Matched Filter Code Acquisition Using DOA Estimation and Beamforming
Henri Puska, Harri Saarnisaari, Jari Iinatti, University of Oulu / CWC
- TA8a-18 Accurate Simple Closed-Form Approximations to the Distributions and Densities of a Sum of Independent Rayleigh Random Variables
Jeremiah Hu, Norman C. Beaulieu, University of Alberta
- TA8a-19 How Quickly Can We Approach Capacity for the Gaussian Channel?
Dror Baron, Mohammad Ali Khojastepour, Richard Baraniuk, Rice University
- TA8a-20 An improved ARQ Scheme with Application to Multi-Level Modulation Techniques
Mikael Gidlund, Royal Institute of Technology
- TA8a-21 Directional Time-based Location Management Method in PCS Networks
S. M. Saeed Masajedian, Ferdowsi University
- TA8a-22 Iterative Multiuser Receiver for Multi-resolution Broadcasting
Christian Ibars, Centre Tecnologic de Telecom.de Catalunya
- TA8a-23 Physical Layer Built-in Security Enhancement of DS-CDMA Systems Using Secure Block Interleaving
Qi Ling, Tongtong Li, Jian Ren, Michigan State University
- TA8a-24 A Denoising Source Separation based approach to Interference Cancellation for DS-CDMA Array Systems
Karthikesh Raju, Jaakko Sarela, Helsinki University of Technology
- TA8a-25 Simplified Trellis Decoding of Block Codes by Selective Pruning
Eric Bertrand, Fabrice Labeau, McGill University
- TA8a-26 New Linear Binary Block Codes for the AWGN Channel
Panayiotis Papadimitriou, Texas A&M University / Nokia Research Center; Costas Georghiades, Texas A&M University
- TA8a-27 Optimum Frame Synchronization for Preamble-less Packet Transmission of Turbo Codes
Jian Sun, Matthew Valenti, West Virginia University
- TA8a-28 Design and Performance of Assymetric Turbo Coded Hybrid-ARQ
Kingsley Oteng-Amoako, University of New South Wales
- TA8a-29 Quantum Convolutional Codes Design and Their Encoder Architectures
Jun Jin Kong, Keshab K. Parhi, University of Minnesota
- TA8a-30 On Recursive Structure of Binary Hamming Codes
Pavel Loskot, Norman C. Beaulieu, University of Alberta
- TA8a-31 Accelerating LDPC decoding using multiple-cycle eigenmessages
Todd Moon, Jacob Gunther, Ojas Chauhan, John Crockett, Utah State University
- Session TA8b Communications II**
Chair: *Hui Liu*
- TA8b-1 Capacity of MIMO Systems in Rayleigh Fading and Shadowing
Laxminarayana Pillutla, Sudharman Jayaweera, Wichita State University
- TA8b-2 Transceiver Design Using Generalized Triangular Decomposition for MIMO Communications with QoS Constraints
Yi Jiang, Jian Li, William Hager, University of Florida
- TA8b-3 Near Maximum-Likelihood Detection with Reduced-Complexity for Multiple-Input Single-Output Antenna Systems
Kai-Kit Wong, The University of Hong Kong; Arogyaswami Paulraj, Stanford University
- TA8b-4 Blind Identification of Laguerre Systems
Jacob Gunther, Utah State University
- TA8b-5 Representation of Real STBC using Filter Banks and Properties of Integer Version of Non-Rate-One STBC
Ka Shun Carson Pun, Truong Nguyen, University of California, San Diego
- TA8b-6 MIMO Frequency-Selective Channel Modeling based on Pathwise Dynamics
Maxime Guillaud, Dirk Slock, Eurecom Institute
- TA8b-7 A Comparative Study of Coded MIMO-OFDM Systems
Yan Xin, National University of Singapore; Syed Aon Mujtaba, Agere Systems Inc.
- TA8b-8 Capacity of the Isotropic Fading Vector Channel with Quantized Channel Direction Feedback
Syed Jafar, University of California, Irvine

- TA8b-9 Space-Time Coded Turbo Equalization and Multiuser Detection - Asymptotic Performance Analysis in the Presence of Unknown Interference
Nenad Veselinovic, Tadashi Matsumoto, CWC/University of Oulu
- TA8b-10 Spatially Correlated MIMO Rician Channel Capacity
Tharmalingam Ratnarajah, Queen's University, Belfast
- TA8b-11 Soft Data Detection Algorithms for an Iterative Turbo Coded MIMO OFDM Systems
Kyeong Jin Kim, Tony Reid, Nokia Research Center; Ronald A. Iltis, University of California, Santa Barbara
- TA8b-12 Performance of a Differential Modulation Scheme with Wireless Relays in Rayleigh Fading Channels
Hongbin Li, Qiang Zhao, Stevens Institute of Technology
- TA8b-13 Multiple Access Control for Broadband Relay Network
Guoqing Li, Hui Liu, University of Washington
- TA8b-14 Performance Evaluation of Decoding Algorithms for Multi-Layered STBC-OFDM system
Samir Al-Ghadhban, Mohammad Maruf, Virginia Tech
- TA8b-15 Multi User Communications in the Presence of Correlated Fading
Rui Li, Benjamin Friedlander, University of California, Santa Cruz
- TA8b-16 Reduced Complexity Sphere Decoding Using Forcing Rules
Tao Cui, Chintha Tellambura, Wen Chen, University of Alberta
- TA8b-17 CFAR adaptive detection of distributed signals
Yuan-Wei Jin, Benjamin Friedlander, University of California, Santa Cruz
- TA8b-18 Beamforming and Scheduling Strategies for Time Slotted Multiuser MIMO Systems
Semih Serbetli, Aylin Yener, Pennsylvania State University
- TA8b-19 Comparison of Adaptive Beamforming and Adaptive STBC with Outdated Channel Feedback
Youngwook Ko, Cihan Tepedelenioglu, Arizona State University
- TA8b-20 Ultra-Wideband Vector Antennas for Sensing and Positioning
Sandeep Krishnamurthy, Anand Konanur, Gianluca Lazzi, Brian Hughes, North Carolina State University
- TA8b-21 Nonstationary Array Processing for Sources with Time-Varying Polarizations
Yimin Zhang, Baha Obeidat, Moeness Amin, Villanova University
- TA8b-22 Detection and Tracking of Multiple Targets within a Three Dimensional Medium
Mark M. Brown, Mohsin M. Jamali, University of Toledo
- TA8b-23 Object Tracking in a 2D UWB Sensor Network
Cheng Chang, Anant Sahai, University of California, Berkeley
- TA8b-24 On the Convergence Behavior of Weighted Space-Time Bit-Interleaved Coded Modulation
Thanh Tung Kim, George Jongren, Mikael Skoglund, Royal Institute of Technology
- TA8b-25 On the Serial Concatenation of Soft RS Codes and Space-Time Block Codes over Quasi-Static Fading Channels
Cheng Zhong, Haitao Xia, J. R. Cruz, University of Oklahoma
- TA8b-26 On Modal Subspaces of Extended Alamouti Space-Time Block Codes
Markus Rupp, Vienna University of Technology; Christoph Mecklenbrucker, Forschungszentrum Telekommunikation Wien; Gerhard Grötsch, Vienna University of Technology
- TA8b-27 Space-time Coding for Wireless Sensor Network with Cooperative Routing Diversity
Lichuan Liu, Hongya Ge, New Jersey Institute of Technology
- TA8b-28 Cross-Layer Sensor Network Synchronization
Zhi Tian, Michigan Technological University; Georgios B. Giannakis, University of Minnesota
- TA8b-29 Cooperative Transmissions in Wireless Sensor Networks with Imperfect Synchronization
Xiaohua Li, Mo Chen, State University of New York at Binghamton; Wenyu Liu, Motorola
- TA8b-30 Spatial Fidelity And Estimation in Sensor Networks
Ameesh Pandya, Huiyu Luo, Greg Pottie, University of California, Los Angeles
- TA8b-31 Efficient Distributed Algorithms for State Estimation and Positioning in Sensor Networks
Andrew Brown, Ronald A. Iltis, University of California, Santa Barbara
- TA8b-32 Antenna Selection with Capacity-Approaching Space-Time Block Codes
Aydin Sezgin, Fraunhofer-Institute for Telecommunications, HHI; Tobias J. Oechtering, Technical University of Berlin
- Session TP1 Sensor Array and Relay Networks**
Chair: *Yingbo Hua*
- TP1-1 Group Testing in sensor networks: The value of asking the right questions 1:30 PM
Yao-Win Hong, Anna Scaglione, Cornell University
- TP1-2 Diversity Analysis of Space-Time Modulations Using the Hurwitz-Radon Matrices 1:55 PM
Yu Chang, Yingbo Hua, University of California, Riverside
- TP1-3 Cooperative Diversity for Wireless Fading Channels without Channel State Information 2:20 PM
J. Nicholas Laneman, University of Notre Dame

TP1-4	Exploiting Diversity in Ad Hoc Sensor Networks <i>Jifeng Geng, Urbashi Mitra, University of Southern California</i>	2:45 PM
	BREAK	3:10 PM
TP1-5	On the Capacity of the Broadband Relay Networks <i>Guoqing Li, Hui Liu, University of Washington</i>	3:30 PM
TP1-6	Localization and Tracking of Multiple Near-Field Sources Using Randomly Distributed Sensors <i>Deva Borah, Arun Balagopal, New Mexico State University</i>	3:55 PM
TP1-7	Acoustic Source Localization in Distributed Sensor Networks <i>Thibaut Ajdler, Ecole Polytechnique Federale de Lausanne (EPFL); Igor Kozintsev, Rainer Lienhart, Intel Labs, Intel Corporation; Martin Vetterli, Ecole Polytechnique Federale de Lausanne (EPFL)</i>	4:20 PM
TP1-8	A throughput scaling law for a class of wireless relay networks <i>Prashant Udupa Sripathi, James Lehnert, Purdue University</i>	4:45 PM

Session TP2 Computer Arithmetic

Chair: *Milos Ercegovac*

TP2-1	Functions approximable by E-fractions <i>Jean-Michel Muller, CNRS/LIP, Ecole Normale Supérieure de Lyon; Nicolas Brisebarre, INRIA-LIP/ Ecole Normale Supérieure de Lyon</i>	1:30 PM
TP2-2	35+ Years of Computer Arithmetic: A View From the Trenches <i>Earl Swartzlander, University of Texas, Austin</i>	1:55 PM
TP2-3	High speed binary addition <i>Robert Jackson, Sunil Talwar, Eric Mahurin, Arithmatica</i>	2:20 PM
TP2-4	Circuit Design Based on Majority Gates for Applications with Quantum-Dot Cellular Automata <i>Konrad Walus, University of Calgary; Rumi Zhang, Wei Wang, University of Western Ontario; Graham A. Jullien, University of Calgary</i>	2:45 PM
	BREAK	3:10 PM
TP2-5	Logical Effort of Higher Valency Adders <i>David Harris, Harvey Mudd College</i>	3:30 PM
TP2-6	Generalized transfer signal functions for fast adder implementations <i>T. J. H. Kluter, Vojin G. Oklobdzija, EPFL</i>	3:55 PM
TP2-7	A Hybrid Ling Carry-Select Adder <i>Johannes Grad, James Stine, Illinois Institute of Technology</i>	4:20 PM

Session TP3 Sensor Networks

Chair: *Rich Baraniuk & Mark Coats*

TP3-1	Efficient Communication Strategies For Distributed Signal Field Estimation <i>Waheed Bajwa, Akbar Sayeed, Robert Nowak, University of Wisconsin-Madison</i>	1:30 PM
TP3-2	Actuator Networks: Distributed Evaluation of Causal Effect <i>Mark Coates, Garrick Ing, McGill University</i>	1:55 PM
TP3-3	Distributed Alternating Localization-Estimation of Camera Networks <i>William Mantzel, Richard Baraniuk, Hyeokho Choi, Rice University</i>	2:20 PM
TP3-4	Distributed data storage in sensor networks using decentralized erasure codes <i>Alexandros G. Dimakis, Kannan Ramchandran, Vinod Prabhakaran, University of California, Berkeley</i>	2:45 PM
	BREAK	3:10 PM
TP3-5	Blind Localization and Counting of Multiple Acoustic Sources in Randomly Distributed Sensor System <i>Yao Chen, Uf Tureli, Stevens Institute of Technology</i>	3:30 PM
TP3-6	Joint Source-Channel Coding for Distributed Sensor Networks <i>Bin Liu, Biao Chen, Syracuse University</i>	3:55 PM
TP3-7	Multi-sensor tracking of a vehicle on a grid <i>Dave Szwed, University of California, San Diego; John Boyd, Cubic Defense Systems; Gary Hutchins, Naval Postgraduate School; Robert Elliott, University of Calgary</i>	4:20 PM
TP3-8	Bandwidth-Constrained Distributed Estimation for Wireless Sensor Networks <i>Alejandro Ribeiro, Georgios B. Giannakis, University of Minnesota</i>	4:45 PM

Session TP4 Sonar and Acoustical Array Processing

Chair: *Jim Pitton*

TP4-1	Improving ocean acoustic travel-time measurements with a rake correlator <i>Matthew Dzieciuch, University of California, San Diego</i>	1:30 PM
TP4-2	Mode Filtering Approaches to Acoustic Source Depth Discrimination <i>Vincent Premus, James Ward, MIT Lincoln Laboratory</i>	1:55 PM
TP4-3	Turbo Array Receiver for Underwater Telemetry <i>John Flynn, James Ritcey, University of Washington</i>	2:20 PM

TP4-4	Towed Array Shape Self-Calibration via Multistage Constant Modulus Array <i>Jie Zhuo, Chao Sun, Jie Feng, Northwestern Polytechnical University</i>	2:45 PM
	BREAK	3:10 PM
TP4-5	Blind Separation of Interference for Synthetic Aperture Sonar and the Lessons Learned from Real Data <i>Ivars Kirsteins, Naval Undersea Warfare Center</i>	3:30 PM
TP4-6	Model-Based Space-Time Adaptive Processing for Active Sonar <i>Vijay Varadarajan, Jeffrey L. Krolik, Duke University</i>	3:55 PM
TP4-7	Approximate Mode Filtering <i>Kathleen Wage, George Mason University</i>	4:20 PM
TP4-8	Minimum radar cross section bounds for passive radar responsive tags. <i>Patrick Bidigare, Troy Stevens, Bill Correll, General Dynamics</i>	4:45 PM

Session TP5 Networks

Chair: *JM Chung*

TP5-1	Network Security: Mapping Intrusion & Anomaly Detection to Very-High-Degree Polynomials <i>Raymond C. Garcia, Shadowband Systems Inc.</i>	1:30 PM
TP5-2	Interference-avoiding features of ultra-wideband communication and wideband ALOHA <i>John Metzner, Pennsylvania State University</i>	1:55 PM
TP5-3	Enhanced Broadband Wireless Networking Through Macroscopic Diversity Combining Applications of MIMO Technology <i>Wun-Cheol Jeong, Jong-Moon Chung, Oklahoma State University</i>	2:20 PM
TP5-4	Throughput Maximization for ARQ-like Systems in Fading Channels with Coding and Queuing Delay Constraints <i>Nadeem Ahmed, Richard Baraniuk, Rice University</i>	2:45 PM
	BREAK	3:10 PM
TP5-5	Impact of Physical Layer Tradeoffs on the MAC Throughput of IEEE 802.11 Wireless LANs <i>Yan Li, Stanford University; Xiaowen Wang, Syed Aon Mujtaba, Agere Systems</i>	3:30 PM
TP5-6	Resource Allocation for Cooperative Transmission in Wireless Networks <i>Donald Brown, Worcester Polytechnic Institute</i>	3:55 PM

TP5-7	Reducing Delay while Maintaining Capacity in Mobile Ad-hoc Networks Using Multiple Random Routes <i>Renato Moraes, Hamid Sadjadpour, J. J. Garcia-Luna-Aceves, University of California, Santa Cruz</i>	4:20 PM
TP5-8	Increased Outdoor FSO Communication Reliability: A Novel Design for an Ultra-short Pulsed FSO Communication System <i>Mohsen Kavehrad, Belal Hamzeh, Pennsylvania State University</i>	4:45 PM

Session TP6 UWB Communications

TP6-1	Semi-Blind ML Synchronization for UWB Transmitted Reference Systems <i>Cecilia Carbonelli, Umberto Mengali, University of Pisa; Stefan Franz, Urbashi Mitra, University of Southern California</i>	1:30 PM
TP6-2	Joint Scale-Lag Diversity in Mobile Ultra-Wideband Systems <i>Adam Margetts, Philip Schniter, The Ohio State University</i>	1:55 PM
TP6-3	Performance Analysis of UWB Impulse Radio with Noisy Template <i>Xianren Wu, Lin Wu, Zhi Tian, Michigan Technological University</i>	2:20 PM
TP6-4	Blind synchronization in asynchronous multiuser UWB networks based on the transmit-reference scheme <i>Relja Djapic, Technical University Delft; Geert Leus, Alle-Jan van der Veen, Delft University of Technology</i>	2:45 PM
	BREAK	3:10 PM
TP6-5	Cross-Band Flexible UWB Access for High-Rate Multi-Piconet WPANs <i>Liuqing Yang, Georgios B. Giannakis, University of Minnesota</i>	3:30 PM
TP6-6	On MIMO capacity in the ultra-wideband regime <i>Ray Siddharth, Medard Muriel, Zheng Lizhong, MIT</i>	3:55 PM
TP6-7	Optimal UWB Waveform Synthesis with Power Spectral Density Constraints <i>Terry Lewis, Robert A Scholtz, University of Southern California</i>	4:20 PM
TP6-8	On Transmitted Reference UWB Communications <i>Moe Win, Wesley Gifford, MIT</i>	4:45 PM

Session TP7 Image and Video Enhancement and Filtering

Chair: *Tamal Bose*

- TP7-1 Real-Time Registration and Display of Confocal Microscope Imagery for Multiple-band Analysis 1:30 PM
Scott Budge, Anoop Mayampurath, Utah State University; James Solinsky, Pacific Northwest National Laboratory
- TP7-2 Adaptable Image Retrieval with Application to Underwater Target Identification 1:55 PM
Mahmood R. Azimi-Sadjadi, SaravanaKumar Srinivasan, Jaime Salazar, Colorado State University
- TP7-3 Multiple Non-Orthogonal Bases Representations for Images 2:20 PM
Pradeep Ragothaman, Wasfy Mikhael, University of Central Florida
- TP7-4 Logo Recognition Using Retinal Coding 2:45 PM
Kathleen Zyga, Air Force Research Laboratory/SNRD; Richard Price, Defence Science and Technology Organisation; Jim Schroeder, University of Adelaide
- BREAK 3:10 PM
- TP7-5 Transient Analysis of the Euclidean Direction Search (EDS) Algorithm 3:30 PM
Zhongkai Zhang, Tamal Bose, Jacob Gunther, Utah State University
- TP7-6 Optimal Order EDS and FEDS Algorithms 3:55 PM
Zhongkai Zhang, Tamal Bose, Jacob Gunther, Utah State University
- TP7-7 Enhancement for Face Video from Omni-directional Video Camera 4:20 PM
Junwen Wu, Mohan Trivedi, University of California, San Diego
- TP7-8 Image Restoration Against Impulse-Noise By Laplacian Preprocessed Difference-Mean-Filtering Between Long-Range-Correlated Sub-Images 4:45 PM
Javad Ahmadi-Shokouh, University of Waterloo

Session TP8a1 Biomedical Signal Processing

Chair: *Dana Brooks*

- TP8a1-1 Detection of Cochlear Hearing Loss Applying Wavelet Packets and Support Vector Machines
Hubert Dietl, Stephan Weiss, University of Southampton
- TP8a1-2 Novel Intelligent Wavelet Filtering of Embolic Signals from TCD Ultrasound
Salman Marvasti, Imperial College London; Duncan Gillies, Imperial College University of London

- TP8a1-3 Genetic Algorithm Optimization of Fuzzy outputs for Classification of Epilepsy Risk Levels from EEG Signals
Harikumar Rajaguru, R. Sukanesh, Thiagarajar College of Engineering; Aravindan Bharathi, Amrita Institute of Technology
- TP8a1-4 EEG Noise Cancellation Using Independent Component Analysis
Ravi Visvanathan, Anna University
- TP8a1-5 A Level Set Algorithm for the Inverse Problem of Electrocardiography
Alireza Ghodrati, Felipe Calderero, Dana H. Brooks, Gilead Tadmor, Northeastern University; Rob MacLeod, University of Utah
- TP8a1-6 Electrical Impedance Tomography Using a 3-D Boundary Element Inverse Solution
Saeed Babaeizadeh, Dana H. Brooks, Northeastern University; David Isaacson, Rensselaer Polytechnic Institute
- TP8a1-7 Quadratic equalization: a method for producing extended uniform depth of focus in high frame rate medical ultrasound B scans
Yibin Zheng, Seth Silverstein, University of Virginia
- TP8a1-8 Frequency-selective SVD-based magnetic resonance spectroscopy with prior knowledge
Niclas Sandgren, Petre Stoica, Yngve Selen, Uppsala University

Session TP8a2 Biomedical Image Processing

Chair: *Yibin Zheng*

- TP8a2-1 Classification of Hyperspectral Colon Tissue Images Using Vocal Synthesis Models
Ryan J. Cassidy, Stanford University
- TP8a2-2 Segmentation of the Myocardium from Myocardial Contrast Echocardiography
John Pickard, Rob Janiczek, Scott Acton, Jiri Sklenar, John A. Hossack, Sanjiv Kaul, University of Virginia
- TP8a2-3 Identification of disease in CT of the lung using texture-based image analysis
John Malone, Jonathan Rossiter, Bristol University; Sanjay Prabhu, Paul Goddard, Bristol Royal Infirmary
- TP8a2-4 Automated Detection and Classification of Vascular Abnormalities in Diabetic Retinopathy
Deepika Vallabha, Kamesh Namuduri, Ramprasad Dorairaj, Wichita State University; Hilary Thompson, Louisiana State University
- TP8a2-5 Decision Support for Automated Screening of Diabetic Retinopathy
Pallavi Kahai, Kamesh Namuduri, Wichita State University; Hilary Thompson, Louisiana State University

TP8a2-6 Comparison of three Gaussian mixture modeling and spatial encoding methods for segmenting human brain MRI
Mahmood Zeydabadi-Nejad, Reza A. Zoroofi, Tehran University; Hamid Soltanian-Zadeh, Henry Ford Health System

TP8a2-7 Iterative gridding for automated microarray image analysis
Dan Bozinov, Peter-Michael Seidel, Southern Methodist University

TP8a2-8 Automatic Determination of the Malignancy of the Pathological Images of the Prostate
Reza Farjam, Reza Aghaizadeh Zoroofi, University of Tehran; Hamid Soltanian-Zadeh, Henry Ford Health System

Session TP8a3 Signal Processing in Genomics and Proteomics

Chair: *Yibin Zheng*

TP8a3-1 Multirate DSP Models for Gene Detection
Raymond Guan, Jamal Tuqan, University of California, Davis

TP8a3-2 Computation of probability distributions of molecules in enzyme reactions
Xueying Zhang, Katrien De Cock, Monica Bugallo, Petar Djuric, Stony Brook University

TP8a3-3 HMM with Auxiliary Memory: A New Tool for Modeling RNA Secondary Structures
Byung-Jun Yoon, P. P. Vaidyanathan, California Institute of Technology

TP8a3-4 Identification and Location of Hot Spots in Proteins Using the Short-Time Fourier Transform
Parameswaran Ramachandran, Andreas Antoniou, University of Victoria; P. P. Vaidyanathan, California Institute of Technology

Session TP8a4 Radar Interpretation and Analysis

Chair: *Seth Silverstein*

TP8a4-1 Synthetic aperture radar image signatures of rotating objects
Seth Silverstein, University of Virginia; Coy Hawkins III, U.S. Army National Ground Intelligence Center

TP8a4-2 Techniques for detection and tracking airplanes using weather radar WSR-88D.
Svetlana Bachmann, National Severe Storms Laboratory; Victor DeBrunner, University of Oklahoma; Dusan Zrnic, National Severe Storms Laboratory; Mark Yeary, University of Oklahoma

TP8a4-3 Closed-form Location Estimator using Angular Spread Measurements
Qun Wan, Zhang-xin Chen, Xian-ning Chen, Wan-lin Yang, University of Electronic Science and Technology; Ying-ning Peng, Tsinghua University

TP8a4-4 High Range Resolution using a Wigner Distribution Deconvolution Algorithm
Steven R. Newton, Mervin C. Budge, Jr., Dynetics, Inc.; Reza R. Adhami, University of Alabama in Huntsville

TP8a4-5 Compression of complex SAR data for real-valued SAR imagery
Hanna E. Witzgall, J. Scott Goldstein, SAIC

TP8a4-6 Modeling of Earths Rotation for Space Based Radar
Braham Himed, Air Force Research Laboratory; Unnikrishna Pillai, Polytechnic University; Ke Yong Li, C & P Technologies Inc.

TP8a4-7 Covariance estimation with regularization by the averages of grouped eigenvalues and its application to image classification
Sangho Yoon, Stanford University

TP8a4-8 Two-Dimensional Autoregressive Modelling Technique Using a Constrained Optimisation Formulation and Minimum Hierarchical Clustering Scheme
Sarah Lee, Tania Stathaki, Imperial College London

TP8a4-9 Estimation of Cloud Phase from Satellite Imagery Data
Amanda Falcone, Mahmood R. Azimi-Sadjadi, Adam Kankiewicz, Donald Reinke, Colorado State University

TP8a4-10 Identifying and Tracking Turbulence Structures
Timothy Hoar, National Center for Atmospheric Research; Thomas Lee, Colorado State University; Douglas Nychka, National Center for Atmospheric Research; Curtis Storlie, Colorado State University; Jeffrey Weiss, University of Colorado at Boulder; Brandon Whitcher, GlaxoSmithKline

TP8a4-11 Data Compression for Data Analysis in Remote Sensing
Amy Braverman, Eric Fetzer, Jet Propulsion Laboratory

TP8a4-12 Fusing Information from MISR and MODIS for Polar Cloud Detection
Tao Shi, Bin Yu, University of California, Berkeley; Eugene Clothiaux, Pennsylvania State University; Amy Braverman, Jet Propulsion Laboratory

Session TP8b1 Image and Video Coding

Chair: *Sheila Hemami*

TP8b1-1 Convexity Results for a Predictive Video Coder
Yegnaswamy Sermadevi, Sheila Hemami, Cornell University

TP8b1-2 Motion Optimized Spatial-Temporal Coding Based on Wavelet Transform
Zhigang Gao, Yuan Zheng, The Ohio State University

TP8b1-3 Low-Bit Rate Motion JPEG Using Differential Encoding
Sanmati Kamath, Joel Jackson, Georgia Institute of Technology

TP8b1-4 Low Bit Rate 3D Video Coding : A Simplified Approach
Ravi Kishore Paruchuru, Sumana Gupta, IIT Kanpur

- TP8b1-5 Efficient phase correlation motion estimation using approximate normalization
Sanjeev Kumar, Mainak Biswas, Truong Nguyen, University of California, San Diego
- TP8b1-6 Smooth Motion Vector Resampling for Standard Compatible Video Post-processing
Gokce Dane, Truong Nguyen, University of California, San Diego
- TP8b1-7 The Behavioral Simulation Results of the Optical Flow Estimation Algorithm for CADSP System Design
Teahyung Lee, David V. Anderson, Georgia Institute of Technology
- TP8b1-8 A Fast Block-based Motion Compensation Video Frame Interpolation Approach
Jinsong Wang, Wayne State University; Nilesch Patel, William Grosky, University of Michigan, Dearborn
- TP8b1-9 Model-based tracking of 3D object based on a Sequential Monte-Carlo method
Jean-Charles Noyer, Patrick Lanvin, Mohammed Benjelloun, Université du Littoral Côte d'Opale
- TP8b1-11 Vector Quantization of Still Images Using Reflected Subcodevectors
Vishnu Makkapati, Honeywell Technology Solutions Lab
- TP8b1-13 Visual Information Processing using Redundant Dictionaries
Pierre Vandergheynst, Pascal Frossard, Swiss Federal Institute of Technology (EPFL)
- TP8b1-16 High-Order State Space Models in Dynamic Linear Inverse Problems
Yiheng Zhang, Dana H. Brooks, Northeastern University
- TP8b1-17 Narrowing the Performance Gap between Orthogonal and Biorthogonal Wavelets
Satyabrata Rout, Amy Bell, Virginia Tech
- TP8b1-18 Blind image deconvolution using constrained variance maximization
Dalong Li, Georgia Institute of Technology; Steven Sinske, Hewlett Packard; Russell Mersereau, Georgia Institute of Technology
- TP8b1-19 Optimization-based Design of 2-D Zero-phase IIR Filters
Dimitry Gorinevsky, Stephen Boyd, Stanford University
- TP8b1-20 A Quasi-Linear Time Design for a Near Optimal Entropy-Constrained Scalar Quantizer
Kivanc Ozonat, Stanford University

Session TP8b2 Array Processing for Wireless Communications

Chair: *Murat Torlak*

- TP8b2-1 Extensions to the capacity-maximizing antenna selection algorithms
Shahab Sanayei, Aria Nosratinia, University of Texas, Dallas

- TP8b2-2 Robust Transmit Eigen-Beamforming Based on Imperfect Channel Correlations
Ayman Abdel-Samad, University of Duisburg-Essen; Alex Gershman, McMaster University
- TP8b2-3 Fast Receive Antenna Selection for MIMO Systems
Jiansong Chen, Xiaoli Yu, University of Southern California
- TP8b2-4 Fast Computation of Finite-Length MIMO MMSE Decision Feedback Equalizers
Nabil Yousef, Broadcom Corp.; Ricardo Merched, Federal University of Rio de Janeiro
- TP8b2-5 Cramer-Rao Bound for Angular Propagation Parameter Estimation in MIMO Systems
Cassio Ribeiro, Esa Ollila, Visa Koivunen, Helsinki University of Technology
- TP8b2-6 Maximum-Likelihood Ratio Bounds for Stochastic and Deterministic Maximum-Likelihood Array Processing
Yuri Abramovich, Defence Science and Technology Organisation; Alexandr Kuzminskiy, Bell Laboratories; Alexei Gorokhov, Qualcomm Inc.

Session TP8b3 Speech Recognition

Chair: *Tina Kohler*

- TP8b3-1 Using GSM Speech Coder Parameters for Speaker Detection
Jaime Hernandez-Cordero, Walter Andrews, U.S. D.o.D.
- TP8b3-2 Multi Level High Capacity Data Hiding Technique for Stereo Audio
Alexander Iliev, Michael Scordilis, University of Miami
- TP8b3-3 Comparison and implementation of a 16-bit fixed point audio resampler
Wen Jin, University of Miami
- TP8b3-4 Phoneme-less Hierarchical Accent Classification
Xiaofan Lin, Steven Sinske, Hewlett Packard Laboratories
- TP8b3-5 Multi-sensor Segmentation of the Voiced Speech Signal Using Hidden Markov Models
Cenk Demiroglu, Georgia Institute of Technology
- TP8b3-6 Isolated Word, Speaker Dependent Recognition under the Presence of Noise, based on an Audio Retrieval Algorithm
Nikolaos Vasiloglou, Ronald Schafer, Georgia Institute of Technology; Mat Hans, Hewlett Packard Laboratories
- TP8b3-7 Speech Recognition for Modular Robotics using Neural Network
Abhisek Ukil, Berthold Bützer, University of Applied Sciences
- TP8b3-8 Speaker Verification Using Time Cepstral Principal Components Derived from a Pole-Zero Model
Anjali Sharma, John Gowdy, Clemson University

Session WA1 Advances in Biomedical Microscopy

Chair: *Brian Helmke*

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David Odde, University of Minnesota

WA1-2 Time-resolved fluorescence microscopy of intact membranes of living endothelial cells 8:55 AM
Peter J. Butler, Pennsylvania State University

WA1-3 The Open Microscopy Environment (OME): Image informatics for functional genomics. 9:20 AM
Ilya Goldberg, NIA / NIH - IRP; Jason Swedlow, University of Dundee; Peter Sorger, MIT

WA1-4 Extracting Subcellular Structural Dynamics from Multi-Wavelength 4-D Fluorescence Images 9:45 AM
Brian P. Helmke, Rosalind E. Mott, University of Virginia

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WA1-5 Automated Leukocyte Detection In Vivo 10:30 AM
Gang Dong, Nilanjan Ray, Scott Acton, University of Virginia

WA1-6 Incorporating Variance within Binary Flow for Leukocyte Tracking 10:55 AM
Rob Janiczek, Jinshan Tang, Scott Acton, University of Virginia

WA1-7 Epi-fluorescent Image Modeling for Viral Infection Analysis 11:20 AM
Satyabrata Rout, Virginia Tech; Vy Lam, University of Wisconsin-Madison; Amy Bell, Karen Duca, Virginia Tech

WA1-8 Fiber- and micro-optic imaging in the live mammalian brain at the cellular level 11:45 AM
Mark J. Schnitzer, Stanford University

Session WA2 VLSI

Chair: *David Harris*

WA2-1 New Division Algorithms by Digit Recurrence 8:30 AM
Jo Ebergen, Ivan Sutherland, Ajanta Chakraborty, Sun Microsystems

WA2-2 Comparing Fast Implementations of Bit Permutation Instructions 8:55 AM
Yedidya Hilewitz, Zhijie Shi, Ruby Lee, Princeton University

WA2-3 Residue arithmetic techniques for hardware reduction in pseudo-random sequence correlators 9:20 AM
Christopher T. Clarke, University of Bath; Thambipillai Srikanthan, Nanyang Technological University

WA2-4 CT-Bus: A Heterogeneous CDMA/TDMA Bus for Future SOC 9:45 AM
Bo-Cheng Charles Lai, Patrick Schaumont, Ingrid Verbauwhe, University of California, Los Angeles

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WA2-5 Exploration and Evaluation of PLX Floating-point Instructions and Implementations for 3D Graphics 10:30 AM
Xiao Yang, Princeton University; Shamik Valia, Michael Schulte, University of Wisconsin-Madison; Ruby Lee, Princeton University

WA2-6 A New Floating-Point Architecture for Wireless 3D Graphics 10:55 AM
David Lutz, Chris Hinds, ARM

WA2-7 Novel Schemes for High-Throughput Image Rotation 11:20 AM
Suchitra Sathyanarayana, Siew Kei Lam, Srikanthan Thambipillai, Nanyang Technological University

WA2-8 A Composite Arithmetic Scheme for Evaluation of Multinomials 11:45 AM
Milos D. Ercegovac, Pavan Adharapurapu, University of California, Los Angeles

Session WA3 Wireless

Chair: *Narayan Mandayam*

WA3-1 Unified Multi-Antenna Code Design for Fading Channels With Spatio-Temporal Correlations 8:30 AM
Mahesh Varanasi, Pranav Dayal, University of Colorado

WA3-2 Resource Allocation for Wireless Relay Channels 8:55 AM
Venugopal Veeravalli, Yingbin Liang, University of Illinois at Urbana-Champaign

WA3-3 Power and Bandwidth Allocation for Cooperative Strategies in Gaussian Relay Networks 9:20 AM
Ivana Maric, Roy Yates, WINLAB, Rutgers University

WA3-4 Hierarchical Wireless Networks: Capacity Bounds and Cooperative Strategies using the Multiple-Access Relay Channel Model 9:45 AM
Lalitha Sankaranarayanan, WINLAB, Rutgers University; Gerhard Kramer, Lucent Technologies; Narayan Mandayam, WINLAB, Rutgers University

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WA3-5 Performance and Cross-Layer Design of Persistent CSMA for Wireless Networks with Multipacket Reception 10:30 AM
Douglas Chan, Toby Berger, Cornell University

WA3-6 A New Wireless Network Medium Access Protocol Based On Cooperation 10:55 AM
Rui Lin, Athina Petropulu, Drexel University

WA3-7 The propagation of self-similarity via wireless gateway 11:20 AM
Jie Yu, Athina Petropulu, Drexel University

WA3-8 Distributed Spatial Multiplexing in a Wireless Network 11:45 AM
Boris Rankov, Armin Wittneben, Swiss Federal Institute of Technology (ETH) Zurich

Session WA4 Array Processing Foundations

Chair: *Uf Tureli*

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Moritz Borgmann, Helmut Bolcskei, ETH Zurich

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Baha Obeidat, Yimin Zhang, Moeness Amin, Villanova University

WA4-3 Model-Based Detection and Direction of Arrival Estimation in Radar Using Sparse Arrays 9:20 AM
Fredrik Athley, Christer Engdahl, Per Sunnergren, Ericsson Microwave Systems AB

WA4-4 Robust Direction Finding 9:45 AM
Richard Vaccaro, Norman Owsley, University of Rhode Island

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WA4-5 Analysis of Beamspace Transform on Uniform Circular Array 10:30 AM
Fabio Belloni, Visa Koivunen, Helsinki University of Technology

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Wei Liu, Imperial College London; Stephan Weiss, University of Southampton

WA4-7 Reduced Rank Beamforming Methods for SDMA/OFDM Communications 11:20 AM
Balkan Kecicioglu, Murat Torlak, University of Texas, Dallas

WA4-8 Vector Quantization for Multiple Antenna Systems with Finite Rate Feedback 11:45 AM
June Chul Roh, Bhaskar D. Rao, University of California, San Diego

Session WA5 FEC

Chair: *Matt Valenti*

WA5-1 A Family of Rate 1/2 Modified Binary Block Repetition Codes 8:30 AM
Pavel Loskot, Norman C. Beaulieu, University of Alberta

WA5-2 A Class of Good Quasi-Cyclic Low-Density Parity Check Codes Based On Progressive Edge Growth Graph 8:55 AM
Zongwang Li, B.V.K. Vijayakumar, Carnegie Mellon University

WA5-3 Performance analysis of the adaptive parity check matrix based soft-decision decoding algorithm 9:20 AM
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WA5-4 Code Design for the Relay Channel and Factor Graph Decoding 9:45 AM
Mohammad Ali Khojastepour, Nasir Ahmed, Behnaam Aazhang, Rice University

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WA5-5 Simplified eIRA code design and performance analysis for Rayleigh fading channels 10:30 AM
William Ryan, University of Arizona

WA5-6 Rate-compatible Irregular LDPC Code of Short Block Length for AWGN and MIMO Applications 10:55 AM
Wen-Yen Weng, Richard D. Wesel, University of California, Los Angeles

WA5-7 Punctured Convolutional Codes Revisited: the Exact State Diagram and Its Implications 11:20 AM
Jing Li, Lehigh University; Erozan Kurtas, Seagate Technology

WA5-8 Coding for Noncoherent M-ary Orthogonal Modulation: BICM-ID or Nonbinary Codes? 11:45 AM
Matthew Valenti, Shi Cheng, West Virginia University

Session WA6 Applications of Adaptive Filtering in Communications

Chair: *Jamal Tuqan*

WA6-1 Exploiting Spatio-Temporal Correlation for Rate-Efficient Transmit Beamforming 8:30 AM
Mirette Sadek, Alireza Tarighat, Ali H. Sayed, University of California, Los Angeles

WA6-2 On The Diversity Order of Single-Carrier Zero-Forcing Frequency-Domain Linear Equalizers 8:55 AM
Ahmadreza Hedayat, Aria Nosratinia, Naofal Al-Dahhir, University of Texas, Dallas

WA6-3 Minimum Mean Square Error Non Uniformly Spaced Equalizers 9:20 AM
Jamal Tuqan, Yan Huang, University of California, Davis

WA6-4 A High Capacity MIMO System Based on Blind Deconvolution 9:45 AM
Hiroto Imamura, Hiroshi Ochi, Kyushu Institute of Technology

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WA6-5 CMA equalization with decision-directed phase correction. 10:30 AM
Gabriel Velarde-Torres, Stanford University

- WA6-6 Design and Performance of IEEE 802.15.4 Compliant MMSE Receivers 10:55 AM
Karen E. L. Scott, Robert W. Stewart, University of Strathclyde
- WA6-7 Effect of Channel Estimation Error on Bit Rate Performance of Time Domain Equalizers 11:20 AM
Ming Ding, Zukang Shen, Brian L. Evans, University of Texas, Austin
- WA6-8 Joint Blind Adaptive Synchronization and Channel Shortening 11:45 AM
Richard K. Martin, Air Force Institute of Technology; C. Richard Johnson, Jr., Cornell University

Session WA7 Statistical Signal and Image Processing

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- WA7-1 A Generalisation of the Delogne-Kasa Method for Fitting Hyperspheres 8:30 AM
Emanuel Zelniker, Vaughan Clarkson, University of Queensland
- WA7-2 Subspace estimators of direction of arrival 8:55 AM
Barry Quinn, Macquarie University
- WA7-3 Capacity of the Kronecker MIMO Channel 9:20 AM
Alex Grant, University of South Australia; Leif Hanlen, National ICT Australia Ltd.
- WA7-4 Estimation of receiver frequency error in a TDOA-based direction-finding system 9:45 AM
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- WA7-5 A Discrete Stochastic Algorithm for Optimizing the Trajectory of an Observer in Bearings-Only Target Tracking 10:30 AM
Farhad Ghassemi, Vikram Krishnamurthy, University of British Columbia
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- WA7-7 An Integral Projection Approach to 3D Rigid Body Transformations 11:20 AM
Stefan Lehmann, Vaughan Clarkson, Peter Kootsookos, University of Queensland
- WA7-8 Combining Generalized Gaussian Density and Energy Distribution in Wavelet Packet Analysis for Texture Classification 11:45 AM
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Amit Chhetri, Darryl Morrell, Antonia Papandreou-Suppappola, Arizona State University
- WA8a-3 Target Tracking Using an Image Sensor with a Configurable Active Area
Fengjun Xi, Darryl Morrell, Arizona State University
- WA8a-4 MUSIC and notch filters
Kaushik Mahata, University of Newcastle
- WA8a-5 Modulation Identifications Using a Neural Network Based Wavelet Domain Approach.
Ralph Hippenstiel, Hassan El-Kishky, Chad Frick, Sandeep Dattaprasad, University of Texas, Tyler
- WA8a-6 On Time Series Analysis and Digital Signal Classification
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Nikzad Babaii Rizvandi, Abdolreza Nabavi, Tarbiat Modares University; Shaahein Hessabi, Sharif University of Technology
- WA8a-8 Stability of a Time-Varying 2-D State-Space Digital Filter
Glen W. Mabey, Tamal Bose, Todd Moon, Utah State University
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William Malcolm, Robert Elliott, University of Calgary
- WA8a-11 Optimal Reconstruction of Periodically Sampled Signals with Probabilistic Timing Delays
Ryan Prendergast, Truong Nguyen, University of California, San Diego
- WA8a-12 Probabilistic Model Approximation Measure and Multiple Model Estimation
Z. L. Zhao, University of New Orleans; X. Rong Li, University of New Orleans
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Lennart Svensson, Chalmers University of Technology; Magnus Lundberg, Colorado State University

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Malay Gupta, Balu Santhanam, University of New Mexico
- WA8a-15 RSS Localization in Wireless Nakagami-m Fading Channels
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- WA8a-19 Detection of Frequency Hopping Signals With a Sweeping Channelized Radiometer
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- WA8a-22 Cramer-Rao Lower Bound for semiblind channel estimation with respect to coded and uncoded finite-alphabet signals
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- WA8a-27 Uniqueness of the Operating Point in MITE Circuits
Shyam Subramanian, Georgia Institute of Technology; Paul Hasler, Georgia Institute of Technology
- WA8a-28 Low-Power Realization of FIR Filters Using Current-Mode Analog Design Techniques
Venkatesh Srinivasan, Gail Rosen, Paul Hasler, Georgia Institute of Technology
- WA8a-29 Theory and Design of An Optimal Personalized Surround Audio System Through Orthonormal Decomposition
Zhiyun Li, University of Maryland
- WA8a-30 An Oversampled, Non-Uniform Filter Bank for Multi-Band Audition and Level Modification of Audio Signals
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- WA8a-31 Regularized MRE method for blind multichannel image deconvolution
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- WA8a-32 Digital Modulation Recognition Using Support Vector Machine Classifier
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Session WA8b1 Speech Processing

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- WA8b1-1 A Real-Time Network Simulation Application for Multimedia over IP
Christopher M. White, Josh Raymond, Keith A. Teague, Oklahoma State University
- WA8b1-2 A Noise Robust Speech Activity Detection Algorithm for Voice Activated Hands-free Applications in Car
Harsha Bagur, Kyocera Wireless Corp
- WA8b1-3 A hybrid parametric-waveform approach to bitstream scalable audio coding
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- WA8b1-4 Probabilistic Principal Component Analysis Applied To Voice Conversion
Mark Wilde, Andrew Martinez, Tulane University
- WA8b1-5 Binaural Noise Reduction Combining Binaural Analysis and Psychoacoustically Motivated Spectral Subtraction
Hesu Huang, Chris Kyriakakis, University of Southern California

- WA8b1-6 An Adaptive UEP Transmission System for JPEG2000
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- WA8b1-7 Reduced-Delay Mixing of Compressed Speech Signals
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- WA8b1-20 FFT Quantization Analysis for Realtime Speech and
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- WA8b1-21 Fast estimation of uniformly-distributed random
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*Magnus Lundberg, Louis L. Scharf, Ali Pezeshki,
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- WA8b2-4 The properties and distribution of the CAPE detector.
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- WA8b2-5 Steering Invariant Robust Sidelobe Cancellation
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Brown, Andrew	TA8b.31	Clarke, Christopher T.	MP8a1.3
Brown, Donald	TP5.6	Clarke, Christopher T.	MP8a1.2
Brown, Mark M.	TA8b.22	Clarkson, Vaughan	WA7.1
Browne, David	TA2a.4	Clarkson, Vaughan	WA8a.20
Budge, Scott	TP7.1	Clarkson, Vaughan	WA7.7
Budge, Jr., Mervin C.	TP8a4.4	Clements, Mark	WA8b1.19
Bugallo, Monica	TP8a3.2	Clothiaux, Eugene	TP8a4.12
Butler, Peter J.	WA1.2	Coates, Mark	TP3.2
Byers, Simon	MP6.4	Cohen, Aaron	MP8a1.6
Cabric, Danijela	TA2a.2	Coleman, Jeffrey O.	MP4a.3
Cain, Gerald	WA8a.21	Coleman, Jeffrey O.	MA4b.4
Calderero, Felipe	TP8a1.5	Correll, Bill	TP4.8
Cao, Qianling	TA4.6	Cotofana, Sorin	MP8a1.17
Carbonelli, Cecilia	TP6.1	Coutts, Scott	MP4b.2
Cassidy, Ryan J.	WA8a.30	Cowan, Colin	TA6.5
Cassidy, Ryan J.	TP8a2.1	Cox, Henry	WA8b2.6
Castleman, Kenneth	MA3b.1	Cox, Richard	MP7.1
Chakraborty, Ajanta	WA2.1	Cranor, Lorrie	MP6.4
Chan, Douglas	WA3.5	Crisu, Dan	MP8a1.17
Chan, Wai-Yip	WA8b1.11	Crockett, John	TA8a.31
Chan, Wai-Yip	MP8b.20	Cronin, Eric	MP6.4
Chang, Cheng	TA8b.23	Cruz, J. R.	TA8b.25
Chang, Yu	TP1.2	Cui, Tao	TA8b.16
Chao, Yi-Ling	MP8b.13	Cui, Tao	TA8a.10
Chao, Yi-Ling	MP8b.12	Cuomo, Kevin	MP4b.2
Chau, Paul	MP4a.1	Dahl, Mattias	WA8b1.10
Chauhan, Ojas	TA8a.31	Dai, Huaiyu	TA5.3
Chen, Biao	TP3.6	Daly, Mike	TA7.4
Chen, Biao	WA8a.26	Dane, Gokce	TP8b1.6
Chen, Chiang-yu	MP8b.28	Daniel, Edward J.	MP7.3
Chen, Ching-Han	WA8b1.14	Dao, Dung Ngoc	MP8b.23
Chen, Haifeng	MP8b.17	Das, Sibasish	MP8b.14
Chen, Huimin	WA8a.1	Dasgupta, Soura	TA3b.1
Chen, Jiansong	TP8b2.3	Datta, Suprakash	MA3b.2
Chen, Mo	TA8b.29	Dattaprasad, Sandeep	WA8a.5
Chen, Wei	MP5.7	Daut, David	MP8b.26
Chen, Wen	TA8b.16	Daut, David	WA8b1.6
Chen, Xian-ning	TP8a4.3	Dayal, Pranav	WA3.1
Chen, Yao	MP5.8	de Almeida, Sergio J. M.	MP3.4
Chen, Yao	TP3.5	De Cock, Katrien	TP8a3.2
Chen, Zhang-xin	TP8a4.3	DeBrunner, Linda	MP8a1.11

NAME	SESSION	NAME	SESSION	NAME	SESSION	NAME	SESSION
DeBrunner, Victor	TP8a4.2	Farjam, Reza	TP8a2.8	Gowdy, John	TP8b3.8	Hodjat, Alireza	MP8a1.9
DeBrunner, Victor	MA1b.4	Feistel, Angela	MP8b.9	Grad, Johannes	TP2.7	Holdt Jensen, Soeren	WA8b1.8
Deleuze, Anne-Laure	MP8b.6	Felix, Steve	TA2b.2	Gran, Fredrik	MP1.4	Hombs, Brandon	MP8b.24
Demirkan, Murat	TA8a.2	Feng, Jie	TP4.4	Grant, Alex	WA7.3	Hong, Yao-Win	TP1.1
Demiroglu, Cenk	WA8b1.19	Fertig, Louis	MP4a.4	Grant, Steven	TA6.3	Horak, P.	MA5b.2
Demiroglu, Cenk	TP8b3.5	Fetzer, Eric	TP8a4.11	Griesbach, Jacob	WA8b2.7	Hossack, John A.	TP8a2.2
Demirsoy, Suleyman Sirri	MP8a1.4	Fimoff, Mark	WA8a.25	Griffin, Karen A.	TA1.5	Howard, Stephen	WA8a.20
Dempster, Andrew G.	MA4b.3	Fishler, Eran	MP4b.3	Gritsch, Gerhard	TA8b.26	Hu, Bin	MP8b.7
Dempster, Andrew G.	MA4b.4	Fitz, Michael	TA2a.4	Grosky, William	TP8b1.8	Hu, Jeremiah	TA8a.18
Dempster, Andrew G.	MP8a1.4	Fitz, Michael	TA8a.12	Guan, Raymond	TP8a3.1	Hu, Rongqiang	MP7.8
den Brinker, Albertus	WA8b1.3	Fitz, Michael	MP8b.22	Guenther, Drake	MP1.3	Hua, Yingbo	MA7b.3
Desai, Mukund	WA8b2.8	Fleury, Bernard	MP8b.7	Guess, Tommy	MP2.1	Hua, Yingbo	TP1.2
Dick, Chris	TA2a.3	Flores, Aaron	MA6b.4	Gugel, Karl	MP8a1.23	Huang, Dong-Yan	WA8b1.16
Dietl, Hubert	TP8a1.1	Flynn, John	TP4.3	Guidry, Anthony	MP8a2.2	Huang, Hesu	MP3.6
Dikeman, R. David	MP8a1.10	Forenza, Antonio	MP8b.29	Guillaud, Maxime	TA8b.6	Huang, Hesu	WA8b1.5
Dimakis, Alexandros G.	TP3.4	Forsythe, Keith	TA4.5	Gunnarsson, Joakim	TA7.7	Huang, Howard	TA4.2
Ding, Ming	WA6.7	Forsythe, Keith	MP4b.4	Gunther, Jacob	TP7.5	Huang, Ke	WA7.8
Ding, Zhi	TA7.2	Francois, Joseph	TA8a.16	Gunther, Jacob	TP7.6	Huang, Yan	WA6.3
Ding, Zhi	MP8b.15	Franz, Stefan	TP6.1	Gunther, Jacob	TA8b.4	Hueper, Knut	MA7b.2
Djapic, Relja	TP6.4	Frick, Chad	WA8a.5	Gunther, Jacob	TA8a.31	Hughes, Brian	TA5.3
Djuric, Petar	TP8a3.2	Friedlander, Benjamin	TA8a.16	Guo, Yuanbin	TA2a.1	Hughes, Brian	TA8b.20
Dogandzic, Aleksandar	WA8a.15	Friedlander, Benjamin	TA8b.17	Gupta, Malay	WA8a.14	Hutchins, Gary	TP3.7
Dong, Gang	WA1.5	Friedlander, Benjamin	TA8b.15	Gupta, Sumana	TP8b1.4	Hviid, Asger	MP8b.7
Dorairaj, Ramprasath	MP6.6	Friedlander, Benjamin	TA8a.14	Gustafsson, Oscar	MA4b.3	Hwang, Suk-seung	WA8b1.22
Dorairaj, Ramprasath	TP8a2.4	Frossard, Pascal	TP8b1.13	Gustafsson, Oscar	MA4b.4	Ibars, Christian	TA8a.22
Doroslovacki, Milos	WA8a.32	Fuhrmann, Daniel R.	MP4b.1	Gustafsson, Oscar	MA4b.1	Ibrahim, Nicolas	MP8b.5
Doser, Adele	TA1.7	Gansawat, Duangrat	MP8b.10	Hacioglu, Rifat	TA1.6	Ibrahim, Nicolas	MP2.8
Douglas, Scott	TA6.1	Gao, Zhigang	TP8b1.2	Hager, William	TA8b.2	Ibsen, M.	MA5b.2
Du, Huini	MP1.2	Garcia, Raymond C.	TP5.1	Hager, William	MP4b.3	linatti, Jari	TA8a.17
Du, Yingzi	MP8a2.6	Garcia-Luna-Aceves, J. J.	TP5.7	Hamzeh, Belal	TP5.8	Ikuma, Takeshi	MA6b.3
Duca, Karen	WA1.7	Gaudiot, Jean-Luc	MP8a1.13	Hanlen, Leif	WA7.3	Iliev, Alexander	TP8b3.2
Duffy, Chris	TA3a.3	Gay, Steven	TA6.3	Hans, Mat	TP8b3.6	Iliev, Alexander	TP8b3.3
Duhamel, Pierre	WA8a.16	Ge, Hongya	TA8b.27	Hansen, Jan	MP2.6	Iltis, Ronald A.	TA8b.11
Dzieciuch, Matthew	TP4.1	Gefand, Saul	TA8a.5	Harris, David	TP2.5	Iltis, Ronald A.	TA8b.31
Ebergen, Jo	WA2.1	Geng, Jifeng	TP1.4	harris, fred	TA2a.3	Imamura, Hiroto	WA6.4
El Gamal, Hesham	TA4.1	Georghiades, Costas	MP2.4	Harteneck, Moritz	TA2b.3	Ing, Garrick	TP3.2
El-Kishky, Hassan	WA8a.5	Georghiades, Costas	TA8a.26	Hasler, Paul	WA8a.28	Insana, Michael	MP1.7
El-Kishky, Hassan	WA8a.6	Gerrits, Andy	WA8b1.3	Hasler, Paul	WA8a.27	Insana, Michael	MP1.2
Elliott, Robert	TP3.7	Gershman, Alex	TP8b2.2	Hasler, Paul	TA3a.3	Isaacson, David	TP8a1.6
Elliott, Robert	WA8a.10	Ghassemi, Farhad	WA7.5	Hatke, Gary	WA8b1.2	Ives, Robert	MP8a2.2
El-Mahassni, Edwin	WA8a.20	Ghodrati, Alireza	TP8a1.5	Hauske, Gert	TA1.8	Ives, Robert	MP8a2.6
Emami, Majid	MP2.6	Giannakis, Georgios B.	MP8b.11	Hawkins III., Coy	TP8a4.1	Iyer, Radhika	MP5.8
Engdahl, Christer	WA4.3	Giannakis, Georgios B.	TP3.8	Heath, Jr., Robert W.	MP8b.29	Jackson, Joel	TP8b1.3
Ercegovac, Milos D.	WA2.8	Giannakis, Georgios B.	TA8b.28	Heath, Jr., Robert W.	TA4.7	Jackson, Robert	TP2.3
Ercegovac, Milos D.	MP8a1.7	Giannakis, Georgios B.	TP6.5	Hedayat, Ahmadreza	WA6.2	Jacobsen, Noah	MP2.2
Ertan, Ali Erdem	MP7.4	Gibson, Jerry	MP7.7	Helmke, Brian P.	WA1.4	Jafar, Syed	TA8b.8
Ertin, Emre	MA1b.3	Gidlund, Mikael	TA8a.20	Hemami, Sheila	TP8b1.1	Jamali, Mohsin M.	TA8b.22
Eshraghian, Kamran	MA2b.4	Gifford, Wesley	TP6.8	Heneghan, Conor	MP8b.28	Janes, Kevin	TA1.4
Etter, Delores	MP8a2.2	Gillies, Duncan	TP8a1.2	Hennings, Pablo	MP8a2.3	Janiczek, Rob	TP8a2.2
Etter, Delores	MP8a2.6	Girod, Bernd	WA7.6	Hernandez-Cordero, Jaime	TP8b3.1	Janiczek, Rob	WA1.6
Evans, Brian L.	MP8b.29	Goddard, Paul	TP8a2.3	Hessabi, Shaahein	WA8a.7	Jansson, Magnus	WA7.4
Evans, Brian L.	WA6.7	Goldberg, Ilya	WA1.3	Heute, Ulrich	WA8b1.12	Javidi, Tara	MP5.4
Falcone, Amanda	TP8a4.9	Goldstein, J. Scott	TP8a4.5	Hilewitz, Yedidya	WA2.2	Javidi, Tara	TA8a.8
Falk, Johan	WA7.4	Gong, Yu	TA6.5	Himed, Braham	TP8a4.6	Jayaweera, Sudharman	TA8b.1
Falk, Tiago	WA8b1.11	Gooch, Richard	TA5.7	Hinds, Chris	WA2.6	Jenkins, W. Kenneth	MP3.3
Falk, Tiago	MP8b.20	Gordy, James	WA8b1.7	Hippenstiel, Ralph	WA8a.5	Jensen, Jorgen Arendt	MP1.4
Fan, Howard	MP8b.4	Gorinevsky, Dmitry	TP8b1.19	Hippenstiel, Ralph	WA8a.6	Jeong, Wun-Cheol	TP5.3
Fan, Zhifei	MP2.7	Gorokhov, Alexei	TP8b2.6	Hndel, Peter	WA7.4	Jiang, Qin	MA3b.4
Fargues, Monique	MP8a2.1	Goubran, Rafik	WA8b1.7	Hoar, Timothy	TP8a4.10	Jiang, Yi	TA4.3

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Jiang, Yi	TA8b.2	Krolik, Jeffrey L.	TP4.6	Li, Rui	TA8b.15	Malalur, Sanjeev	MP8a2.4
Jin, Wen	TP8b3.3	Krusienski, D. J.	MP3.3	Li, Tiffany	TA8a.13	Malcolm, William	WA8a.10
Jin, Yuan-Wei	TA8b.17	Kuehn, Volker	WA8a.22	Li, Tongtong	TA5.8	Malone, John	TP8a2.3
Jo, Sung Eun	TA6.6	Kumar, Praveen	TA4.1	Li, Tongtong	TA8a.23	Mandayam, Narayan	WA3.4
Johnson, Louis	WA8a.18	Kumar, Sanjeev	TP8b1.5	Li, Tongtong	MP6.5	Mandayam, Giridhar	TA8a.3
Johnson, Jr., C. Richard	WA6.8	Kundur, Deepa	MP6.2	Li, X. Rong	WA8a.12	Mangoubi, Rami	WA8b2.8
Joho, Marcel	TA7.3	Kuo, C.-C. Jay	TA5.5	Li, Xiaohua	TA8b.29	Manry, Michael	MP8a2.4
Jongren, George	TA8b.24	Kurtas, Erozan	WA5.7	Li, Yabo	TA4.8	Mansour, Mohammad	MP8a1.19
Jullien, Graham A.	MA2b.2	Kuzminskiy, Alexandr	TP8b2.6	Li, Yan	TP5.5	Manton, Jonathan	TA7.4
Jullien, Graham A.	TP2.4	Kyriakakis, Chris	MP3.6	Li, Zhiyun	WA8a.29	Manton, Jonathan	MA17b.3
Jung, Hyejung	MP8b.21	Kyriakakis, Chris	WA8b1.5	Li, Zongwang	WA5.2	Mantzel, William	TP3.3
Jungnickel, Volker	MP8b.17	Kyriakakis, Chris	MP3.7	Liang, Yingbin	WA3.2	Margetts, Adam	TP6.2
Juntti, Markku	WA8a.19	Laamari, Hedi	MP2.8	Lienhart, Rainer	TP1.7	Maric, Ivana	WA3.3
Kadambe, Shubha	MA3b.4	Labau, Fabrice	TA8a.25	Lim, Chai Soon	MP8a1.1	Marino, Claudio	MP4a.1
Kahai, Pallavi	TP8a2.5	Lai, Bo-Cheng Charles	WA2.4	Lin, Rui	WA3.6	Marple, Jr., S. Lawrence	TA8a.6
Kale, Izzet	MP8a1.4	Lai, Hung	WA8b2.6	Lin, Xiaofan	TP8b3.4	Martin, Richard K.	WA6.8
Kamath, Sanmati	TP8b1.3	Lam, Siew Kei	MP8a1.2	Ling, Qi	TA8a.23	Martinez, Andrew	WA8b1.4
Kamath, Sunil	WA8b1.19	Lam, Siew Kei	WA2.7	Liu, Bin	TP3.6	Maruf, Mohammad	TA8b.14
Kamenetsky, Max	MA6b.5	Lam, Vy	WA1.7	Liu, Daniel	TA2a.4	Marvasti, Salman	TP8a1.2
Kammeyer, Karl-Dirk	WA8a.22	Laneman, J. Nicholas	TP1.3	Liu, Hong	MP8b.16	Marzetta, Thomas	MA1b.2
Kang, Jung-Yup	MP8a1.13	Lanvin, Patrick	TP8b1.9	Liu, Hui	TP1.5	Masajedian, S. M. Saeed	TA8a.21
Kankiewicz, Adam	TP8a4.9	Lashkari, Khosrow	MP7.6	Liu, Hui	TA8b.13	Mastrangelo, C. H.	MA2b.5
Kapilow, David	MP7.1	Lauffenburger, Douglas	TA1.4	Liu, Hui	MP5.2	Mathlouthi, Walid	MA5b.3
Karagiannis, Emmanouil D.	TA1.3	Lazzi, Gianluca	TA8b.20	Liu, Jie	MP1.7	Matsumoto, Tadashi	TA8b.9
Karunasiri, Gamani	MP8a2.1	Le Martret, Christophe	MP8b.6	Liu, Jie	MP1.2	Mayampurath, Anoop	TP7.1
Kaul, Sanjiv	TP8a2.2	Lechner, Gottfried	MP8a1.24	Liu, Lichuan	TA8b.27	Mc Coy, A. D.	MA5b.2
Kavehrad, Mohsen	TP5.8	Lee, Colin	MP8a2.1	Liu, Wei	WA4.6	McAllister, M. J.	MP1.3
Kecicioglu, Balkan	WA4.7	Lee, Heechoon	TA2a.4	Liu, Weiliang	WA8b1.6	McCain, Dennis	TA2a.1
Keller, Catherine	WA8b2.2	Lee, Pei Yeian	MA7b.1	Liu, Wenyu	TA8b.29	McCloud, Michael	MP5.3
Khojastepour, Mohammad Ali	WA5.4	Lee, Ruby	WA2.5	Liu, Zhipeng	MP8a1.23	McCulloch, Andrew	TA1.1
Khojastepour, Mohammad Ali	TA8a.19	Lee, Ruby	WA2.2	Liuha, Petri	MP8a1.17	McDaniel, Patrick	MP6.4
Khong, Andy	TA6.4	Lee, Sarah	TP8a4.8	Lizhong, Zheng	TP6.6	McHarg, Jeff	MP4b.2
Khosla, Pradeep	MP8a2.7	Lee, Seong-Min	MP8a1.14	Lookabaugh, Tom	MP6.3	McIlhenny, Robert	MP8a1.7
Kim, Kyeong Jin	TA8b.11	Lee, Teahyung	TP8b1.7	Lorentz, Mathieu	TA1.5	McKelvey, Tomas	TA7.7
Kim, Sang Woo	TA6.6	Lee, Thomas	TP8a4.10	Loskot, Pavel	TA8a.30	McWhorter, Todd	WA8b2.4
Kim, Thanh Tung	TA8b.24	Lehmann, Stefan	WA7.7	Loskot, Pavel	WA5.1	Mecklenbrucker, Christoph	TA8b.26
Kirsteins, Ivars	TP4.5	Lehnert, James	MP8b.24	Low, Han Sim (Eugene)	MP8a1.2	Mengali, Umberto	TP6.1
Kittipiyakul, Somsak	MP5.4	Lehnert, James	TA8a.11	Lundberg, Magnus	WA8a.13	Merched, Ricardo	TP8b2.4
Kleijn, Bastiaan	WA8b1.8	Lehnert, James	MA5b.5	Lundberg, Magnus	WA8b2.1	Mersereau, Russell	TP8b1.18
Kluter, T. J. H.	TP2.6	Lehnert, James	TP1.8	Luo, Huiyu	TA8b.30	Metzner, John	TP5.2
Ko, Youngwook	TA8b.19	Lehtomaki, Janne	WA8a.19	Luo, Xiliang	MP8b.11	Mikhael, Wasfy	TP7.3
Koc, Ali Taha	TA5.6	Lemieux, Pascal	MA5b.3	Luschi, Carlo	TA2b.2	Milanfar, Peyman	MA7b.4
Koc, Cetin	MP8a1.8	Leus, Geert	TP6.4	Lutz, David	WA2.6	Mir, Hasan	WA8b2.2
Kochman, Fred	TA7.6	Leutelt, Lutz	WA8b1.12	Ma, Qian	MP5.6	Mishra, Shridhar Mubaraq	TA2a.2
Kocian, Alexander	MP8b.7	Lever, Ken	WA8b1.21	Mabey, Glen W.	WA8a.8	Mitra, Urbashi	TA5.5
Koetter, Ralf	WA5.3	Levinbook, Yoav	TA7.8	Mac Gabhann, Feilim	TA1.3	Mitra, Urbashi	TP1.4
Koivunen, Visa	MP8b.3	Lewis, Terry	TP6.7	Macleod, Malcolm D.	MA4b.3	Mitra, Urbashi	TP6.1
Koivunen, Visa	TP8b2.5	Li, Chunjian	WA8b1.13	Macleod, Malcolm D.	MA4b.4	Mondal, Bishwarup	TA4.7
Koivunen, Visa	WA4.5	Li, Dalong	TP8b1.18	MacLeod, Rob	TP8a1.5	Moon, Todd	TA7.6
Konanur, Anand	TA8b.20	Li, Guoqing	TP1.5	Madhow, Upamanyu	TA5.4	Moon, Todd	TA8a.31
Kong, Jun Jin	TA8a.29	Li, Guoqing	TA8b.13	Madhow, Upamanyu	MP2.2	Moon, Todd	WA8a.8
Kootsookos, Peter	WA7.7	Li, Guoqing	MP5.2	Magar, Minoda	MP8a1.11	Moore, Carleton	MP8a1.10
Kormann, Dave	MP6.4	Li, Hongbin	TA5.2	Magarini, Maurizio	TA2b.4	Moore, John	MA7b.1
Koyama, Fumio	MA5b.4	Li, Hongbin	TA8b.12	Magotra, Neeraj	WA8b1.20	Moraes, Renato	TP5.7
Kozintsev, Igor	TP1.7	Li, Jian	TA4.3	Mahadevappa, Ravi	TA2b.1	Moran, W.	TA3a.1
Kramer, Gerhard	WA3.4	Li, Jian	TA8b.2	Mahata, Kaushik	WA8a.4	Morrell, Darryl	TA3a.4
Krishnamurthy, Vikram	WA7.5	Li, Jian	MA1b.2	Mahurin, Eric	TP2.3	Morrell, Darryl	WA8a.2
Krishnamurthy, Sandeep	TA8b.20	Li, Jing	WA5.7	Makkapati, Vishnu	TP8b1.11	Morrell, Darryl	WA8a.3
Krishnan, Venkatesh	TA3a.3	Li, Ke Yong	TP8a4.6	Malah, David	MP7.1	Morrison, Scott	MP8a1.23

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Moses, Randolph	MA1b.3	Paar, Christof	MP8a1.18	Qian, Hua	MP8b.25	Sadiki, Tayeb	TA6.2
Mott, Rosalind E.	WA1.4	Pandharipande, Ashish	TA3b.1	Qiang, Lin	MP8a1.3	Sadjadpour, Hamid	TA8a.13
Mouhouche, Belkacem	MP8b.5	Pandya, Ameesh	TA8a.15	Quinn, Barry	WA7.2	Sadjadpour, Hamid	TP5.7
Mouhouche, Belkacem	WA8a.31	Pandya, Ameesh	TA8b.30	Quirk, Maureen	TA7.6	Sahai, Anant	TA8b.23
Mudumbai, Raghuraman	TA5.4	Papadimitriou, Panayiotis	TA8a.26	Rader, Charles	WA8b2.7	Sahr, John	WA8b2.2
Mughal, Bobby	WA8a.21	Papandreou-Suppappola, Antonia	TA3a.4	Radev, Penio (Pepe)	WA8a.6	Salazar, Jaime	TP7.2
Mujtaba, Syed Aon	TP5.5	Papandreou-Suppappola, Antonia	WA8a.2	Ragothaman, Pradeep	TP7.3	Sällberg, Benny	WA8b1.10
Mujtaba, Syed Aon	TA8b.7	Parhi, Keshab K.	MP8a1.22	Raich, Raviv	MP8b.25	San Antonio, Geoffrey	MP4b.1
Muller, Jean-Michel	TP2.1	Parhi, Keshab K.	TA8a.29	Rajaguru, Harikumar	TP8a1.3	Sanayei, Shahab	TP8b2.1
Muller, Jean-Michel	MP8a1.20	Parhi, Keshab K.	MP8a1.5	Raju, Karthikesh	TA8a.24	Sandgren, Niclas	TP8a1.8
Muriel, Medard	TP6.6	Parhi, Keshab K.	MP8a1.6	Ramachandran, Parameswaran	TP8a3.4	Sandgren, Niclas	MP8b.18
Murphy, Robert	MA3b.3	Park, Hyeong Sook	MP8a1.21	Ramchandran, Kannan	TP3.4	Sane, H. S.	MA2b.5
Mustafa, Hussam	WA8a.32	Park, Seong-Hun	MP8a1.14	Ramos, Antonio	TA6.8	Sankaran, Sundar G.	MP3.5
Nabavi, Abdolreza	WA8a.7	Park, Song	MP8a1.8	Rane, Shantanu	WA7.6	Sankaranarayanan, Lalitha	WA3.4
Nadooshan, Mehrdad	MP6.5	Park, Tae Joon	TA6.6	Ranganathan, Karthik	MP1.3	Santhanam, Balu	WA8a.14
Nallanathan, Arumugam	WA8b1.16	Parks, Jeremy	MP8a1.23	Rankov, Boris	WA3.8	Sarela, Jaakko	TA8a.24
Namuduri, Kamesh	MP6.6	Paruchuru, Ravi Kishore	TP8b1.2	Rao, Bhaskar D.	WA4.8	Sathyanarayana, Suchitra	MP8a1.1
Namuduri, Kamesh	TP8a2.5	Patel, Nilesh	TP8b1.8	Rasmussen, Lars	MP8b.7	Sathyanarayana, Suchitra	WA2.7
Namuduri, Kamesh	TP8a2.4	Paulraj, Arogyaswami	TA4.4	Ratnarajah, Tharmalingam	TA8b.10	Savage, C. O.	TA3a.1
Narasimha, Pramod Lakshmi	MP8a2.4	Paulraj, Arogyaswami	TA8b.3	Ray, Nilanjan	WA1.5	Savage, John E.	MA2b.1
Nasersharif, Babak	WA8b1.17	Paulraj, Arogyaswami	MP2.6	Ray, Pinaki	TA7.1	Savvides, Marios	MP8a2.7
Naylor, Patrick	TA6.4	Peirce, Shayn	TA1.2	Raymond, Josh	WA8b1.1	Savvides, Marios	MP8a2.8
Nemethova, Olivia	WA8a.24	Pelzl, Jan	MP8a1.18	Rebollo-Monedero, David	WA7.6	Sayana, Krishnakamal	TA8a.5
Nerayanuru, S. M.	WA8a.25	Peng, Ying-ning	TP8a4.3	Reid, Tony	TA8b.11	Sayed, Ali H.	MP3.1
Newton, Steven R.	TP8a4.4	Penrod, Ryan	TA8a.12	Reilly, Jim	TA7.4	Sayed, Ali H.	WA6.1
Ng, Edmund H.-O.	TP7.8	Perez-Neira, Ana I.	TA8a.4	Reilly, Jim	MA7b.3	Sayeed, Akbar	TP3.1
Ng, Tung-Sang	MP5.5	Petropulu, Athina	WA3.6	Reinke, Donald	TP8a4.9	Sayir, Jossy	MP8a1.24
Nguyen, Truong	WA8a.11	Petropulu, Athina	MP5.1	Ren, Jian	TA8a.23	Scaglione, Anna	TP1.1
Nguyen, Truong	TP8b1.5	Petropulu, Athina	WA3.7	Ren, Jian	MP6.5	Schafer, Ronald	TP8b3.6
Nguyen, Truong	TP8b1.6	Pezeshki, Ali	TA7.5	Renfors, Markku	MP8b.3	Scharf, Louis L.	MP2.7
Nguyen, Truong	TA8b.5	Pezeshki, Ali	WA8b2.1	Ribeiro, Alejandro	TP3.8	Scharf, Louis L.	TA7.5
Nguyen, Truong	TA3b.4	Pickard, John	TP8a2.2	Ribeiro, Cassio	TP8b2.5	Scharf, Louis L.	WA8b2.1
Ni, Bin	MA5b.5	Pillai, Unnikrishna	TP8a4.6	Richardson, David	MA5b.2	Schaumont, Patrick	WA2.4
Niemier, Michael	MA2b.3	Pillutla, Laxminarayana	TA8b.1	Rieken, David	WA8b2.9	Scherb, Ansgar	WA8a.22
Norden, Fredrik	WA8b1.8	Piton, Romain	MP8b.7	Riera-Palou, Felip	WA8b1.3	Schill, Kerstin	TA1.8
Nosratinia, Aria	TP8b2.1	Pladdy, Christopher	WA8a.25	Rigby, K. W.	MP1.3	Schmitt, H. A.	TA3a.2
Nosratinia, Aria	WA6.2	Pohl, Volker	MP8b.17	Rigling, Brian	MA1b.1	Schmitt, H. A.	TA3a.1
Nowak, Robert	TP3.1	Pointurier, Yvan	MA5b.1	Ritcey, James	TP4.3	Schniter, Philip	MP8b.14
Noyer, Jean-Charles	TP8b1.9	Polyzois, Christos	MP6.1	Roberson, Jeremy	MP8b.15	Schniter, Philip	MP8b.16
Nuding, Ulrich	TA1.8	Ponnaluri, Satya	MP2.1	Robey, Frank	MP4b.2	Schniter, Philip	TP6.2
Nyathi, Jabulani	MP8a1.16	Pope, Aleksander S.	TA1.3	Robinson, Dirk	MA7b.4	Schnitzer, Mark J.	WA1.8
Nychka, Douglas	TP8a4.10	Potkonjak, Miodrag	MA4b.2	Roh, June Chul	WA4.8	Scholtz, Robert A.	TP6.7
Obeidat, Baha	WA4.2	Potter, Lee	MA1b.3	Rose, Christopher	MP2.3	Scholtz, Robert A.	MP8b.27
Obeidat, Baha	TA8b.21	Pottie, Greg	TA8a.15	Rosen, Gail	WA8a.28	Scholtz, Robert A.	MP8b.13
Ochi, Hiroshi	WA6.4	Pottie, Greg	TA8b.30	Rossiter, Jonathan	TP8a2.3	Scholz, Kirstin	WA8b1.12
Odde, David	WA1.1	Prabhakaran, Vinod	TP3.4	Rout, Satyabrata	TP8b1.17	Schroeder, Jim	TP7.4
Oechtering, Tobias J.	TA8b.32	Prabhu, Sanjay	TP8a2.3	Rout, Satyabrata	WA1.7	Schulte, Michael	WA2.5
Ogura, Nobuhiko	TA6.7	Prasad, Narayan	MP2.5	Roy, Mathieu	MA5b.3	Scordilis, Michael	TP8b3.2
Ohlsson, Henrik	MA4b.1	Premus, Vincent	TP4.2	Ruan, Yanhua	WA8a.1	Scordilis, Michael	TP8b3.3
Oklobdzija, Vojin G.	TP2.6	Prendergast, Ryan	WA8a.11	Rupp, Markus	WA8a.24	Scott, Karen E. L.	WA6.6
Ollila, Esa	TP8b2.5	Price, Jennifer	TA8a.8	Rupp, Markus	TA8b.26	Seidel, Peter-Michael	TP8a2.7
Oteng-Amoako, Kingsley	TA8a.28	Price, Richard	TP7.4	Rupp, Markus	MP8a1.24	Seidel, Peter-Michael	MP8a1.12
Oteri, Oghenekome	TA4.4	Proakis, John	MA6b.3	Rupp, Markus	WA8a.23	Seidel, Peter-Michael	WA8b1.18
Owrrang, Maryam	TA8a.14	Pun, Ka Shun Carson	TA8b.5	Rusch, Leslie	MA5b.3	Selen, Yngve	TP8a1.8
Owsley, Norman	WA8b2.5	Pun, Ka Shun Carson	TA3b.4	Ryan, William	WA5.5	Selen, Yngve	MP8b.18
Owsley, Norman	WA4.4	Puska, Henri	MP4a.2	Saarnisaari, Harri	MP4a.2	Serbetli, Semih	TA8b.18
Ozdemir, Ozgur	TA5.6	Puska, Henri	TA8a.17	Saarnisaari, Harri	TA8a.17	Sermadevi, Yegnaswamy	TP8b1.1
Ozen, Serdar	WA8a.25	Puzio, Matthew	TA8a.13	Saarnisaari, Harri	WA8a.19	Serpedin, Erchin	TA8a.1
Ozonat, Kivanc	TP8b1.20	Qi, Jinyi	MP1.1	Sadek, Mirette	WA6.1	Serpedin, Erchin	MP5.5

NAME	SESSION	NAME	SESSION	NAME	SESSION	NAME	SESSION
Seskar, Ivan	MP8b.8	Su, Borching	TA3b.3	Vaidyanathan, P. P.	TA3b.3	Ward, James	TP4.2
Sezgin, Aydin	TA8b.32	Su, Xinrong	WA8b1.16	Vaidyanathan, P. P.	TP8a3.3	Weikle, Dennis	MP4b.2
Shanbhag, Naresh R.	WA5.3	Subramanian, Shyam	WA8a.27	Valenti, Matthew	WA5.8	Weiss, Jeffrey	TP8a4.10
Sharma, Anjali	TP8b3.8	Sukanesh, R.	TP8a1.3	Valenti, Matthew	TA8a.27	Weiss, Stephan	WA4.6
Sharma, Gaurav	MA3b.5	Sun, Chao	TP4.4	Valenzuela, Reinaldo	MP4b.3	Weiss, Stephan	TP8a1.1
Shen, Cong	MP8b.2	Sun, Haitong	TA7.2	Valia, Shamik	WA2.5	Weiss, Stephan	MP8b.19
Shen, Zukang	WA6.7	Sun, Jian	TA8a.27	Valkama, Mikko	MP8b.3	Weng, Wen-Yen	WA5.6
Shi, Kai	TA8a.1	Sunar, Berk	MP8a1.18	Vallabha, Deepika	TP8a2.4	Wesel, Richard D.	WA5.6
Shi, Tao	TP8a4.12	Sunnergren, Per	WA4.3	van de Par, Steven	WA8b1.9	Westerlund, Nils	WA8b1.10
Shi, Zhijie	WA2.2	Sutherland, Ivan	WA2.1	van der Veen, Alle-Jan	TP6.4	Whitcher, Brandon	TP8a4.10
Shimamura, Tetsuya	WA8b1.15	Svensson, Lennart	WA8a.13	Van Trees, Harry	MP8a1.10	White, Christopher M.	MP7.3
Shynk, John	MP3.2	Swartzlander, Earl	TP2.2	Vandergheynst, Pierre	TP8b1.13	White, Christopher M.	WA8b1.1
Shynk, John	TA5.7	Swedlow, Jason	WA1.3	Vanderschaar, Mihaela	TA7.2	White, Langford	TA7.1
Shynk, John	WA8b1.22	Sworder, Dave	TP3.7	Vang Andersen, Soeren	WA8b1.8	Widrow, Bernard	MA6b.5
Shynk, John	MA6b.2	Tadmor, Gilead	TP8a1.5	Varadarajan, Vijay	TP4.6	Widrow, Bernard	MA6b.4
Siddharth, Ray	TP6.6	Tague, John	WA8b2.5	Varanasi, Mahesh	MP2.5	Widrow, Bernard	MA6b.1
Silverstein, Seth	TP8a1.7	Takeshita, Oscar	TA8a.12	Varanasi, Mahesh	WA3.1	Wijaya, Surya	MP8a2.8
Silverstein, Seth	TP8a4.1	Talwar, Sunil	TP2.3	Varshney, Pramod	WA8a.26	Wilde, Mark	WA8b1.4
Simske, Steven	TP8b3.4	Tang, Jinshan	WA1.6	Vasiloglou, Nikolaos	TP8b3.6	Williamson, Geoffrey A.	TA1.6
Simske, Steven	TP8b1.18	Tanner, Rudolf	TA2b.3	Vassiliadis, Stamatias	MP8a1.17	Williamson, Geoffrey A.	TA1.5
Sinkus, Ralph	MP1.8	Tapio, Mikael	TA8a.9	Veeravalli, Venugopal	WA3.2	Wilson, Stephen	TA4.6
Siqueira, Marcio	TA6.8	Tarighat, Alireza	WA6.1	Velarde-Torres, Gabriel	WA6.5	Win, Moe	TP6.8
Sira, Sandeep	TA3a.4	Tawalbeh, Lo'ai	MP8a1.8	Venkataraman, Vishwanath	TA5.7	Wittneben, Armin	WA3.8
Sivanesan, Kathiravetpillai	MP8b.1	Teague, Keith A.	MP7.3	Venkataraman, Vishwanath	MA6b.2	Witzgall, Hanna E.	TP8a4.5
Sklenar, Jiri	TP8a2.2	Teague, Keith A.	WA8b1.1	Venkatesan, Sivarama	TA4.2	Wollinger, Thomas	MP8a1.18
Skoglund, Mikael	TA8b.24	Tellambura, Chintha	MP8b.23	Venkateswaren, Sunder	TA2a.4	Wong, Ian	MP8b.29
Slavakis, Konstantinos	TA6.7	Tellambura, Chintha	TA8b.16	Verbauwhede, Ingrid	MP8a1.9	Wong, Jennifer L.	MA4b.2
Slock, Dirk	TA5.1	Tellambura, Chintha	TA8a.10	Verbauwhede, Ingrid	MP8a2.5	Wong, Kai-Kit	TA8b.3
Slock, Dirk	TA6.2	ten Brink, Stephan	TA2b.1	Verbauwhede, Ingrid	WA2.4	Wong, Kainam Thomas	TP7.8
Slock, Dirk	TA8b.6	Tenca, Alexandre	MP8a1.8	Veselinovic, Nenad	TA8b.9	Wong, ShingWa	TA2a.4
Smith III, Julius O.	WA8a.30	Tepedelenioglu, Cihan	MP5.6	Vetterli, Martin	TP1.7	Wong, Tan	TA7.8
Soderstrand, Michael	WA8a.18	Tepedelenioglu, Cihan	TA8b.19	Vijayakumar, B.V.K.	WA5.2	Wright, Gregory	MP2.3
Solinsky, James	TP7.1	Thambipillai, Srikanthan	MP8a1.2	Vijayakumar, B.V.K.	MP8a2.3	Wu, Di	MP8b.8
Soltanian-Zadeh, Hamid	TP8a2.8	Thambipillai, Srikanthan	MP8a1.1	Vijayakumar, B.V.K.	MP8a2.7	Wu, Junwen	TP7.7
Soltanian-Zadeh, Hamid	TP8a2.6	Thambipillai, Srikanthan	WA2.7	Vijayakumar, B.V.K.	MP8a2.8	Wu, Lin	TP6.3
Song, Woo-Jin	MP3.1	Thompson, Hilary	TP8a2.5	Viola, Francesco	MP1.5	Wu, Sau-Hsuan	TA5.5
Sorger, Peter	WA1.3	Thompson, Hilary	TP8a2.4	Visvanathan, Ravi	TP8a1.4	Wu, Xianren	TP6.3
Sorooshiyari, Siamak	MP8b.26	Thomsen, Ben	MA5b.2	von Helmolt, Clemens	MP8b.17	Wu, Yik-Chung	MP5.5
Soudene, Wided	WA8a.31	Tian, Zhi	TP6.3	Vu, Mai	MP2.6	Wunder, Gerhard	TA8a.7
Spalvieri, Arnaldo	TA2b.4	Tian, Zhi	TA8b.28	Waagen, D. E.	TA3a.1	Xi, Fengjun	WA8a.3
Spasojevic, Predrag	MP8b.8	Tibenderana, Charles	MP8b.19	Waagen, D. E.	TA3a.2	Xia, Haitao	WA8b.25
Spencer, Richard	TA8a.2	Tisserand, Arnaud	MP8a1.20	Wage, Kathleen	TP4.7	Xia, Xiang-Gen	TA3b.2
Srikanthan, Thambipillai	WA2.3	Tobagi, Fouad A.	MP7.2	Walker, William F.	MP1.5	Xia, Xiang-Gen	TA4.8
Srinivasan, SaravanaKumar	TP7.2	Torlak, Murat	TA5.6	Walker, William F.	MP1.3	Xie, Yongzhe	MP2.4
Srinivasan, Venkatesh	WA8a.28	Torlak, Murat	WA4.7	Walus, Konrad	MA2b.2	Xin, Yan	TA8b.7
Stanczak, Slawomir	MP8b.9	Triki, Mahdi	TA6.2	Walus, Konrad	TP2.4	Yamada, Isao	TA6.7
Stathaki, Tania	MP8b.10	Trivedi, Mohan	TP7.7	Wan, Qun	TP8a4.3	Yang, Liuqing	TP6.5
Stathaki, Tania	TP8a4.8	Trumpf, Jochen	MA7b.2	Wang, Guoping	MP8a1.15	Yang, Shenglin	MP8a2.5
Steinmair, Mathias	WA8a.23	Tsakalides, Panagiotis	MP6.8	Wang, Huahui	TA5.8	Yang, Wan-lin	TP8a4.3
Stephen, Graham	WA8a.17	Tuqan, Jamal	WA6.3	Wang, Jinsong	TP8b1.8	Yang, Xiao	WA2.5
Stevens, Troy	TP4.8	Tuqan, Jamal	TP8a3.1	Wang, Nanyan	WA8b2.3	Yardim, Anush	WA8a.21
Stewart, Robert W.	WA6.6	Tureli, Uf	MP5.8	Wang, Rensheng	TA5.2	Yatawatta, Sarod	MP5.1
Stewart, Robert W.	WA8a.17	Tureli, Uf	TP3.5	Wang, Wei	MA2b.2	Yates, Roy	WA3.3
Stine, James	TP2.7	Tzagkarakis, George	MP6.8	Wang, Wei	TP2.4	Yazdi, N.	MA2b.5
Stoica, Petre	TP8a1.8	Udupa Sripathi, Prashant	TP1.8	Wang, Xiaowen	TP5.5	Yeary, Mark	TP8a4.2
Stoica, Petre	MP8b.18	Uenohara, Hiroyuki	MA5b.4	Wang, Yanwei	MA1b.2	Yener, Aylin	TA8b.18
Stoica, Petre	MA1b.2	Ukil, Abhisek	TP8b3.7	Wang, Yu-Ping	MA3b.1	Yip, Kun-Wah	MP5.5
Storlie, Curtis	TP8a4.10	Vaccaro, Richard	WA4.4	Wang, Zhongfeng	MP8a1.22	Yoon, Byung-Jun	TP8a3.3
Streinu, I.	TA3a.2	Vaidyanathan, P. P.	TP8a3.4	Wanhammar, Lars	MA4b.1	Yoon, Sangho	TP8a4.7

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Yousef, Nabil	TP8b2.4		
Yu, Bin	TP8a4.12		
Yu, Jie	WA3.7		
Yu, Xiaoli	TP8b2.3		
Yue, Xiaodong	MP8b.4		
Zaidi, Abdellatif	WA8a.16		
Zeidler, James	MA6b.3		
Zelniker, Emanuel	WA7.1		
Zemp, Roger	MP1.7		
Zetzsche, Christoph	TA1.8		
Zeydabadi-Nejad, Mahmood	TP8a2.6		
Zhang, Hong	TA3b.2		
Zhang, Jin	TA8a.11		
Zhang, Ruifeng	MP5.7		
Zhang, Rumi	MA2b.2		
Zhang, Rumi	TP2.4		
Zhang, Xinmiao	MP8a1.5		
Zhang, Xueying	TP8a3.2		
Zhang, Yiheng	TP8b1.16		
Zhang, Yimin	WA4.2		
Zhang, Yimin	TA8b.21		
Zhang, Yuping	MP8a1.22		
Zhang, Zhongkai	TP7.5		
Zhang, Zhongkai	TP7.6		
Zhao, Qiang	TA8b.12		
Zhao, Z. L.	WA8a.12		
Zheng, Yibin	TP8a1.7		
Zheng, Yibin	MP1.6		
Zheng, Yuan	TP8b1.2		
Zhong, Cheng	TA8b.25		
Zhou, Chan	TA8a.7		
Zhou, Guotong	MP8b.25		
Zhou, Yugang	MP8b.20		
Zhu, Weihua	MP8b.4		
Zhu, Weijun	TA2a.4		
Zhu, Weijun	TA8a.12		
Zhu, Weijun	MP8b.22		
Zhu, Zhenyu	TA8a.13		
Zhuo, Jie	TP4.4		
Zoltowski, Michael	WA8a.25		
Zoltowski, Michael	MP8b.21		
Zourmtos, Takis	MP6.2		
Zrnic, Dusan	TP8a4.2		
Zyga, Kathleen	TP7.4		

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